UTAH DEPARTMENT OF HEALTH

Chemical and Environmental Laboratory

Client Services Manual

Revision 1 March 2005
Revision 2 June 2013

Utah Public Health Laboratory

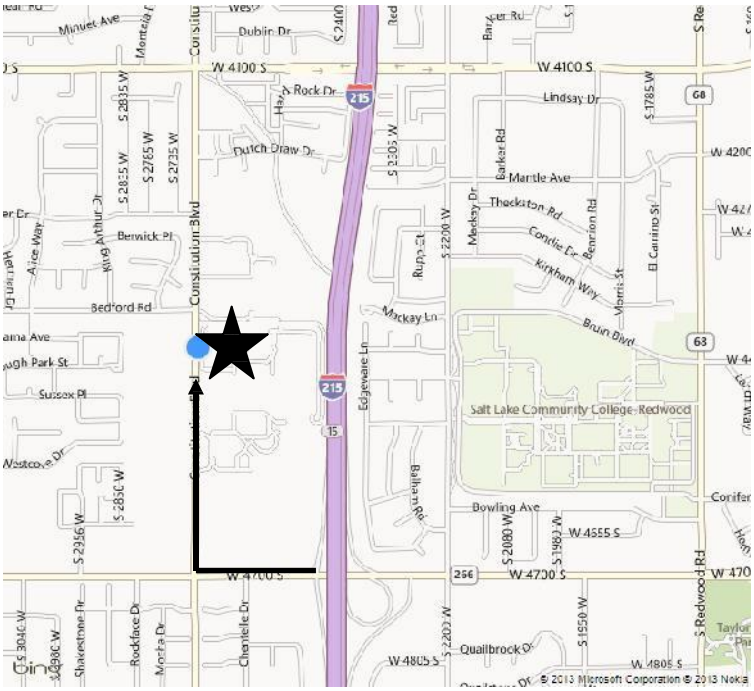
BASIC INFORMATION

CONTACT US:

Address: Unified State Laboratories: Public Health
4431 South 2700 West
Taylorsville, UT 84129-8600
Phone: (801) 965-2400
FAX: (801) 584-8251
Website: http://health.utah.gov/lab

After hours, Holidays, and Emergency: 1-888-374-8824
For Scheduling Sample Testing: 801-965-2405 or 801-965-2470

MAP OF LOCATION:



CHEMICAL AND ENVIRONMENTAL LABORATORY KEY PERSONNEL & SCHEDULING:

Bret Van Ausdall, PhD: Laboratory Chief
David Dick: Sample Receiving
Steve Dickson: Manager of Inorganic Chemistry section
Kyle Ashby, PhD: Manager of Organic Chemistry, Radiochemistry, and Water Microbiology Section
Robert Lo: Manager of Metals section.

Manual Edited by Jenna Moffatt, June 2013

USE OF THIS CLIENT MANUAL

This manual is designed to provide a resource for sample collection and available testing information. Its contents are not to be used for regulatory purposes other than providing proper sample collection and preservation information. If you have any questions, please contact Bret Van Ausdall at (801) 965-2458 or (801) 965-2400.

For your benefit, there is a general description and list of tests for the Clean Water Act (CWA), Safe Drinking Water Act (SDWA), and the Resource Conservation Recovery Act (RCRA) on page 7.

To find a specific test, there is a Table of Contents on pages 4-5 and an Index on pages 76-77. There is also a Program Specific Index for each of the above mentioned acts that list each specific test covered by the act. These are located on pages 47-70. A special tests section for Unregulated Contaminant Monitoring Rule 3 (UCMR3) is located on pages 46-47. The Table of Contents is organized alphabetically by contaminant within each analytical section. Follow the page number to locate more details about each contaminant. The index in the back of the manual lists each test alphabetically along with their method numbers. Program specific indices are organized by the specific program, giving the analytes and tests codes.

Once a contaminant has been selected, specific information and testing instructions are located on the page dedicated to the test. The section (organic, inorganic, etc.) is listed at the top of the page. Next, the name and test codes are listed. Analytes being tested for and, if relevant, the grouping of the chemical will follow. To finish the listing, there are the instructions for collection, required types and number of bottles, preservative and handling information, and method technology. Utilize this information to gain a greater understanding of the specific test that is associated with each contaminant.

All information should be checked and confirmed to be accurate before testing. Instructions should be followed as stated and samples returned to the lab for processing.

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GENERAL LAB PRACTICES AND POLICES:

Our laboratory is responsible for the receipt and testing of chemicals and environmental microbial contaminants in drinking water, wastewater, environmental soils and hazardous waste. Testing is done to ensure compliance with health and safety standards established by Federal and Utah State agencies. Services are provided to Utah DEQ, public water and wastewater utilities, local health departments, as well as other state and federal agencies.

Laboratory business hours are Monday-Friday 8:00 AM- 5:00 PM. We are closed on holidays with the exception of emergencies. Our staff are on-call 24/7 to handle emergency situations, please call 1-888-374-8824 in case of emergency.

Labeled sample collection materials such as water bottles, glass vials, and solids containers may be obtained from the laboratory (free of charge). The laboratory tests each lot of containers to ensure they are free of contamination. The tested lot number appears on each container label.

A complete test sample submission form (provided when containers are picked up and also included at the end of this manual) should accompany all samples. Tests, which are needed by the client but are not performed in our laboratory, will be subcontracted to a commercial laboratory with approval from the client.

Test results are provided to the submitting client, to other individuals as authorized by the submitting client, and to state and/or federal regulatory agencies as required by law. Fees for laboratory services will be charged to the submitting client.

Federal Act Summary

The Chemical and Environmental Laboratory provides testing to supply the Clean Water Act (CWA), Resource Conservation and Recovery Act (RCRA), and the Safe Drinking Water Act (SDWA).

Clean Water Act

The Clean Water Act (CWA) is a federal law, which regulates discharges into the navigable waters of the nation. The Utah Division of Water Quality (DWQ) within the Department of Environmental Quality's mission is to protect, maintain and enhance the quality of Utah's surface and underground waters for appropriate beneficial uses; and to protect the public health through eliminating and preventing water related health hazards which can occur as a result of improper disposal of human, animal, or industrial wastes while giving reasonable consideration to the economic impact.

The Utah Public Health Laboratory cooperates with the Division and performs requested water and soil analyses using EPA approved methods.

Resource Conservation and Recovery Act (RCRA) Summary Hazardous Waste and Emergency Response

The Resource Conservation and Recovery Act (RCRA) is a federal law which defines solid and hazardous wastes and defines requirements for their proper disposal. Both the Utah Division of Solid and Hazardous Waste (DSHW) and the Utah Division of Environmental Response and Remediation within the Department of Environmental Quality protect public health and the environment by ensuring proper management of solid and hazardous wastes and through cleanup of chemically contaminated sites and proper management of underground storage tanks.

The Utah Public Health Laboratories use methods outlined in EPA SW-846 or from other approved sources to test for RCRA contaminants.

Safe Drinking Water Act Summary

The Safe Drinking Water Act (SDWA) is a federal law which applies to all public water systems. Water systems on tribal lands are regulated by EPA Region 8 out of Denver. All other public water systems are regulated by the Utah Division of Drinking Water (DDW) within the Utah Department of Environmental Quality. DDW's mission is to protect the public against waterborne health risks through education, assistance, and oversight.

The Unified State Laboratories: Public Health is approved to conduct testing of water collected from public water systems according to EPA and State rules. It is not necessary to know the names of each analyte to be requested, but general categories of analytical testing are listed below and can be selected on analysis request forms (see last pages of this manual).

Our lab is endorsed by the EPA to carry out tests for the contaminants that are outlined by these three federal regulations. In the back index, you can look up a contaminant by its specific act and then alphabetically by analyte. There are also method numbers for each analyte and a page.

ORGANIC CHEMISTRY

Name: **Haloacetic Acids (HAA)**

Test Code: **SM 6251B-HAA**

6251B-HAA

Grouping: **Disinfection By-Products**

Application: Water systems using chlorine or bromine for disinfection.

Analytes:
Dibromoacetic acid
Dichloroacetic acid
Monobromoacetic acid
Monochloroacetic acid
Trichloroacetic acid

Instructions for Collection: Allow sample tap to run for a few minutes until water temperature stabilizes. Slowly fill vials to top of container, be sure not to over fill to prevent loss of preservative. Check for air bubbles by inverting, and fill the remaining portion if bubbles found. There must be no headspace.

Required Containers/Volume: 3/40 mL vials

Preservative and Handling: 65 mg NH_4Cl, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** holding times, 14 days to extract and 7 days to analyze

Method Technology: Liquid-liquid extraction followed by GC detection

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Name: **Trihalomethanes (THM)**

Test Code: **EPA 524.2-THM**

EPA 524.2-THM

Grouping: **Disinfection By-Products**

Application: Water systems using chlorine or bromine for disinfection.

Analytes:
Bromodichloromethane
Bromoform
Chlorodibromomethane
Chloroform

Instructions for Collection: Allow sample tap to run for a few minutes until water temperature stabilizes. Slowly fill vials to top of container, be sure not to over fill to prevent loss of preservative. Check for air bubbles by inverting, and fill the remaining portion if bubbles found. There must be no headspace.

Required Containers/Volume: 3/40 mL vials

Preservative and Handling: 4 mg $Na_2S_2O_3$, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 14 days.

Method Technology: Purge and trap technique followed by GCMS detection

ORGANIC CHEMISTRY

Name: **Volatile Organic Compounds (VOCs)**

Test Codes: **EPA 524.2-VOC, EPA 624-VOC, EPA 8260-VOC or EPA 1666- PMI-VOC**


EPA 524.2-VOC
(Drinking Water)


EPA 624-VOC and 1666-PMIVOC
(Surface Water)


EPA 8260-VOC
(Groundwater)

NOTE:

Prior to collection of EPA 624, EPA 8260, or EPA 1666 samples, analysis must be scheduled at (801) 965-2400.

If using Encore sampler, please bring to lab as soon as possible (within 48 hours).

For lists of analytes see Program Specific Indexes

Clean Water Act (CWA)……..……...page 49

Resource Conservation and Recovery Act (RCRA)…….....page 56

Safe Drinking Water Act (SWDA)…….page 66

Instructions for Collection:

Caution: For surface waters and groundwater samples, check to see if HCl preservative reacts with source water (foams, effervesces, etc.) If reacts, do not add HCl. For aqueous samples, fill vials with sample source to top of container. Add 2 drops HCl acid to each vial, more drops needed if highly buffered source. Be sure not to over fill to prevent loss of preservative. Check for air bubbles by inverting, and fill the remaining portion if bubbles found. There must be no headspace.

Required Containers/Volume:

Drinking Water – 3/40mL vials, plus 1 trip blank
Surface Water – 4/40 mL, plus 1 trip blank
*must use 4/40 mL vials–special prepared for chlorinated sites
Groundwater – 4/40 mL vials, plus 1 trip blank, prepared and delivered with sample bottles.
*must use 4/40 mL vials–special prepared for chlorinated sites
Soil, solids, sludge – 4 oz. glass container with Teflon-lined lid

Preservative and Handling:

***24 hour holding for water samples if there is no preservative added**

Drinking Water – 25 mg ascorbic acid, HCl to pH <2
Surface Water and Method 1666– 10 mg $Na_2S_2O_3$ for chlorinated sites and HCl if needed
Groundwater – 10 mg $Na_2S_2O_3$ for chlorinated sites and HCl if needed
All sample types, refrigerate or store on ice and do not allow to freeze,4-6°C
recommend next day receipt at lab, total holding time 14 days, except Soil 14 days to extract and 14 days to analyze

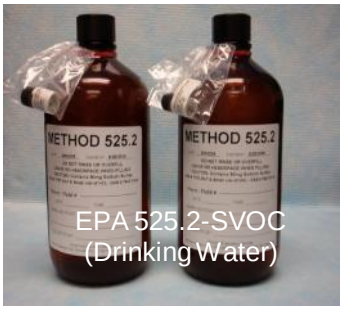
Method Technology: Purge and trap technique followed by GCMS detection

Preparation Method:

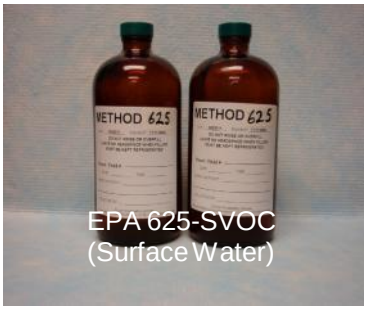
Water (EPA 624 and EPA 8260): EPA 3050
Soil (EPA 8260): EPA 3585

ORGANIC CHEMISTRY

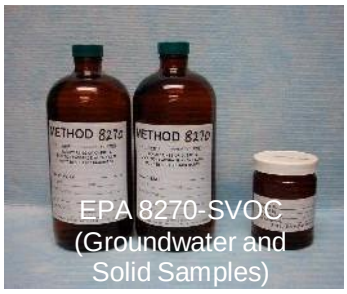
Name: **Pesticides and other Semi-Volatile Organic Compounds (SVOCs)**
Test Codes: **EPA 525.2-SVOC , EPA 625-SVOC or EPA 8270-SVOC**



EPA 525.2-SVOC (Drinking Water)



EPA 625-SVOC (Surface Water)



EPA 8270-SVOC (Groundwater and Solid Samples)

For lists of analytes see Program Specific Indexes

Clean Water Act (CWA)……..……...page 53

Resource Conservation and Recovery Act (RCRA)…….....page 60

Safe Drinking Water Act (SWDA)……..page 69

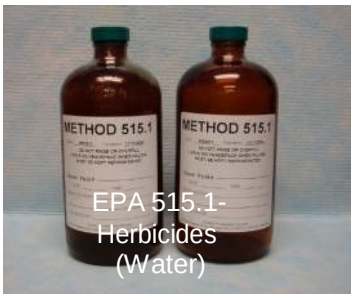
NOTE:
Prior to collection of EPA 525.2, EPA 625 or EPA 8270 samples, analysis must be scheduled at (801) 965-2400.

Instructions for Collection:	For drinking water samples, pour the small vial of acid into each sample bottle. Allow source to flow for a few minutes until water temperature stabilizes, **do not use Tygon tubing**. Slowly fill bottles to top of container, be sure not to over fill to prevent loss of preservative.
Required Containers/Volume:	Drinking Water – 2/1L amber glass bottles + acid vials Surface Water – 2/1L amber glass bottles Groundwater – 2/1L amber glass bottles Soil, solids, sludges – 4 oz. amber glass container with Teflon-lined lid
Preservative and Handling:	Drinking Water – HCl to pH <2, 50 mg sodium sulfite Surface Water – No preservative Groundwater and Solids – No preservative All sample types, refrigerate or store on ice 4-6°C and do not allow to freeze, **recommend next day receipt at lab,** holding times: EPA 525.2 -14 days to extract and 30 days to analyze EPA 625 and EPA 8270 – 7 days to extract and 40 days to analyze Solids - 14 days to extract and 40 days to analyze
Method Technology:	Liquid-solid extraction followed by GCMS detection
Preparation Method:	Groundwater (EPA 8270)-EPA 3510 Soil-(EPA 8270)-EPA 3550

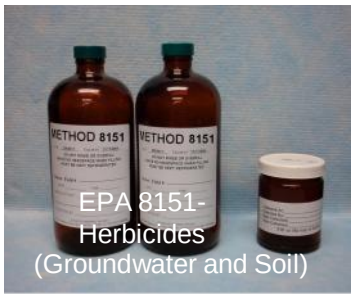
ORGANIC CHEMISTRY

Name: **Herbicides (Chlorinated Organic Acids)**

Test Code: **EPA 515.1-Herbicides or EPA 8151-Herbicides**



EPA 515.1-Herbicides (Water)



EPA 8151-Herbicides (Groundwater and Soil)

Analytes:
2,4-D
2,4,5-TP (Silvex)
Dalapon
Dicamba
Dinoseb
Pentachorophenol
Picloram

Instructions for Collection: If applicable, allow sample tap to run for a few minutes until water temperature stabilizes. Slowly fill bottles to top of container, be sure not to over fill to prevent loss of preservative. Collect per project sampling plan.

Required Containers/Volume: Water – 2/1L amber glass bottles
Soils, Solids, and Sludge– 4 oz. amber glass container with Teflon-lined lid

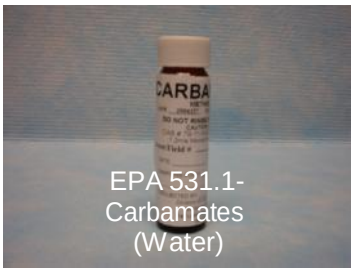
Preservative and Handling: 30 mg $Na_2S_2O_3$ if chlorinated, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** holding times, 14 days to extract and 28 days to analyze

Method Technology: EPA 515.1 and 8151 (Water)- Liquid-liquid extraction followed by GC detection EPA 8151-(Soils) Solid-liquid extraction, then liquid-liquid extraction followed by GC detection

Prep Method: EPA 515.1

Name: **Carbamates (Insecticides and Aldicarbs)**

Test Code: **EPA 531.1**



EPA 531.1-Carbamates (Water)

Analytes:
3 - Hydroxycarbofuran
Aldicarb (Temik)
Aldicarb sulfone
Aldicarb sulfoxide
Carbaryl (Sevin)
Carbofuran (Furadan)
Methomyl
Oxamyl (Vydate)

Instructions for Collection: Allow sample tap to run for a few minutes until water temperature stabilizes. Slowly fill vial to top of container, be sure not to over fill to prevent loss of preservative. Check for air bubbles by inverting, and fill the remaining portion if bubbles found. There must be no headspace.

Required Containers/Volume: 40 mL amber glass vial

Preservative and Handling: 1.2 mL Monochloroacetic acid, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 28 days

Method Technology: Aqueous injection HPLC with post column derivation

ORGANIC CHEMISTRY

Name: **Pesticides (Phase II / Phase V)**

Test Codes: **VOCs* , Pesticides , SVOCs , Herbicides , and Carbamates**

Grouping: **Organic Testing**

Application: Drinking Water

For lists of analytes see Program Specific Indexes

Safe Drinking Water Act (SWDA)……..page 63

NOTE: **Prior to collection of Pesticides (Phase II / Phase V) Organic Testing, analysis must be scheduled at (801) 965-2400.**

*** Pesticides (Phase II / Phase V) may be performed with or without VOC testing**

Instructions for Collection:

For VOC vials, add 2 drops HCl acid to each vial, more drops needed if highly buffered source. For EPA 525.2-SVOC, pour entire small vial of acid into each sample bottle.

Allow sample tap to run for a few minutes until water temperature stabilizes. Slowly fill to top of containers, be sure not to over fill to prevent loss of preservatives. Check for air bubbles by inverting, and fill the remaining portion if bubbles found. There must be no headspace.

Required Containers/Volume:

VOCs - 3/40mL vials, plus 1 trip blank
Pesticides and SVOCs - 2/1L amber glass bottles + acid vials
Herbicides - 2/1L amber glass bottles
Carbamates - 40 mL amber glass vial

Preservative and Handling:

Refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding times:
VOCs - 14 days
Pesticides and SVOCs - 14 days to extract and 30 days to analyze
Herbicides - 14 days to extract and 28 days to analyze
Carbamates - 28 days

Methods Technologies:

VOCs - Purge and trap technique followed by GCMS detection
SVOCs - Liquid-solid extraction followed by GCMS detection
Herbicides - Liquid-liquid extraction followed by GC detection
Carbamates - Aqueous injection HPLC with post column derivation

ORGANIC CHEMISTRY

Name: **Total Petroleum Hydrocarbons (TPH)**

Test Code: **EPA 8015-TPH**


EPA 8015-TPH
(Water) or (Soil)

Analytes: GRO (C6-C10) – Gasoline Range Organics
DRO (C10-C28) – Diesel Range Organics
ORO (C28-C35) – Oil Range Organics

Total TPH (GRO + DRO + ORO)

Instructions for Collection: If applicable, allow sample tap to run for a few minutes until water temperature stabilizes. Slowly fill vials to top of container. Check for air bubbles by inverting, and fill the remaining portion if bubbles found. There must be no headspace.

Required Containers/Volume: Water – 3/40 mL vials
Soil – 4 oz. glass container with Teflon-lined lid

Preservative and Handling: No preservative, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** holding times, 14 days to extract and 40 days to analyze

Method Technology: Extraction technique (liquid-liquid, waste dilution) followed by GCFID detection.

Preparation Method: Water-EPA 3510; Soil- EPA 3580

Name: **Benzene, Toluene, Ethylbenzene, Xylene, and Naphtalene (BTEX N)**

Test Code: **SM 8260B BTEX N**


B TEX N
(Water) or (Soil)

Analytes: **B**enzene
Toluene
Ethylbenzene
Xylene
Naphtalene

Note: If using Encore sampler, please bring to lab as soon as possible (within 48 hours).

Instructions for Collection: If applicable, allow sample tap to run for a few minutes until water temperature stabilizes. Slowly fill vials to top of container. Check for air bubbles by inverting, and fill the remaining portion if bubbles found. There must be no headspace.

Required Containers/Volume: Water – 3/40 mL vials
Soil – 4 oz. glass container with Teflon-lined lid

Preservative and Handling: No preservative, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 14 days

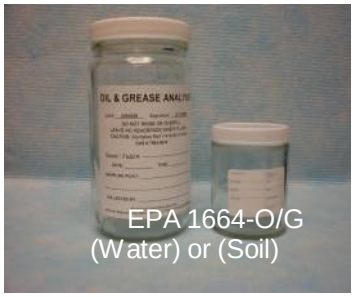
Method Technology: Purge and trap technique followed by GCMS detection

Preparation Method: Water-EPA 5030; Soil-EPA 3585

ORGANIC CHEMISTRY

Name: **Oil and Grease**

Test Code: **EPA 1664-O/G**



EPA 1664-O/G (Water) or (Soil)

Analyte: Total O/G (Oil and Grease)

Will be contracted to an outside laboratory with client approval.

Instructions for Collection: If applicable, allow source to flow for a few minutes until water temperature stabilizes. Slowly fill containers to top, be sure not to over fill to prevent loss of preservative.

Required Containers/Volume: Water – 1 L glass container with Teflon-lined lid
Soil – 4 oz. glass container with Teflon-lined lid

Preservative and Handling: H_2SO_4 to pH <2, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 28 days from collection.

Method Technology: Liquid-solid extraction followed by Gravimetric detection

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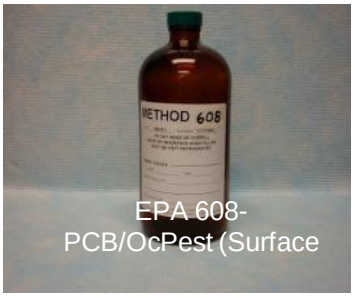
Name: **Polychlorinated Biphenyls (PCBs) and Organochlorine Pesticides (OcPest)**

Test Codes: **EPA 608-PCB/OcPest or EPA 8081-OcPest and 8082-PCBs**



EPA 608-PCB/OcPest (Surface

EPA 8081-PCB/OcPest (Other Samples)

For lists of analytes see Program Specific Indexes

Clean Water Act (CWA)……..page 49

Resource Conservation and Recovery Act (RCRA)……..page 56

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.

Required Containers/Volume: Surface Water – 1 L amber glass bottle
Groundwater – 1 L amber glass bottle
Soils, solids, sludge – 4 oz. amber glass container with Teflon-lined lid
Oil – 4 oz. amber glass container with Teflon-lined lid

Preservative and Handling: No preservative, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** holding times, 7 days to extract and 40 days to analyze, except Soil 14 days to extract and 40 days to analyze

Method Technology: Extraction technique (Liquid-liquid, sonication, waste dilution) followed by GCMS detection

Preparation Method: Water- EPA 3510; Oils-EPA 3580; Soil-EPA 3550

ORGANIC CHEMISTRY

Name: **Glycols (Ethylene and Propylene Glycols)**

Test Code: **EPG**

Analytes: Ethylene Glycol
Propylene Glycol

Will be contracted to an outside laboratory with client approval. Bottles are to be obtained from contracted lab.

Instructions for Collection: If applicable, allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.

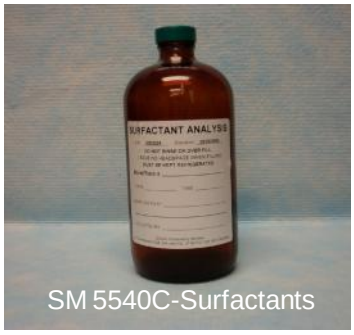
Required Containers/Volume: Water – 2/40 mL vials
Soil – 4 oz. glass container with Teflon-lined lid

Preservative and Handling: No preservative, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 28 days

Method Technology: Aqueous injection with GCFID detection

Name: **Surfactants**

Test Code: **SM 5540C-Surfactants**



Grouping: **New Drinking Water Source**

Analyte: Total Surfactants

NOTE: **Prior to collection of Surfactants Testing, analysis must be scheduled at (801) 965-2400.**

Instructions for Collection: Allow sample tap to run for a few minutes until water temperature stabilizes. Slowly fill to top of container.

Required Containers/Volume: 1 L amber glass bottle

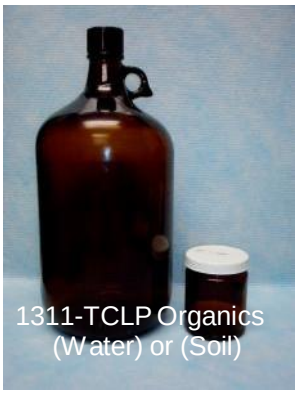
Preservative and Handling: No preservative, refrigerate or store on ice and do not allow to freeze, **recommend same day receipt at lab,** total holding time 48 hours

Method Technology: Extraction technique followed by MBAS detection

ORGANIC CHEMISTRY

Name: **RCRA Toxic Characteristic Leaching Procedure (TCLP)**

Test Codes: **TCLP-Organics (VOCs, SVOCs, Pesticides, and Herbicides)**



Grouping: **Organic Testing (RCRA)**

NOTE: Prior to collection of EPA 1311-TCLP (water and soil) or EPA 1332-TCLP (oil), analysis must be scheduled at (801) 965-2400.

Analytes:

Volatile Organic Compounds (VOCs)

D029	1,1 - Dichloroethene
D028	1,2 - Dichloroethane
D027	1,4 - Dichlorobenzene
D018	Benzene
D019	Carbon Tetrachloride
D021	Chlorobenzene
D022	Chloroform
D035	Methyl Ethyl Ketone
D039	Tetrachloroethene
D040	Trichloroethene
D043	Vinyl Chloride

Pesticides

Chlordane
Endrin
Heptachlor
Heptachlor Epoxide
Lindane
Methoxychlor
Toxaphene

Herbicides

2,4 - D
2,4,5 - TP (Silvex)

Semi-Volatile Organic Compounds (SVOCs)

D030	2,4 - Dinitrotoulene
D041	2,4,5 - Trichlorophenol
D042	2,4,6 - Trichlorophenol
D032	Hexachlorobenzene
D033	Hexachlorobutadiene
D034	Hexachloroethane
D024	m - Cresol
D036	Nitrobenzene
D023	o - Cresol
D025	p - Cresol
D037	Pentachlorophenol
D038	Pyridine

Instructions for Collection: Slowly fill to top of container.

Required Containers/Volume:
Liquids – 4 L amber glass bottle
Soil – 4 oz. amber glass container with Teflon-lined lid
Oil – 4 oz. amber glass container with Teflon-lined lid

Preservative and Handling: Refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** holding times:
SVOCs - 7 days to TCLP and 40 days to analyze
VOCs - 14 days to TCLP and 40 days to analyze
Pesticides - 7 days to extract and 40 days to analyze
Solids - 14 days to extract and 40 days to analyze
Herbicides - 14 days to extract and 28 days to analyze

Method Technology: Leaching procedure and extraction technique followed by GCMS detection

INORGANIC AND METAL CHEMISTRY

Name: **New Drinking Water Source or "New Source Inorganics and Metals" (46 parameters)**

Test Code: **Type 7 (Total Inorganics and Metals Chemistry)**


Type 7 (Total Inorganics and Metals Chemistry)

D = Dissolved
T = Total
L = Lab measured
F = Field measured

Analytes:

Total Chemistry
1 L plastic

Odor (TON)
Surfactant
Alkalinity
Bicarbonate
Carbon Dioxide
Carbonate
Carbonate (CO3) Solids
Chloride
Corrosivity
Fluoride
Hardness
Hydroxide
L-pH or F-pH
L-Specific Conductivity
Silica
Total Dissolved Solids (TDS)
Total Suspended Solids (TSS)
Turbidity (NTU)
Cyanide
Sulfate

Nutrient Analysis
500 mL plastic

Ammonia
NO2+NO3
T-Phosphate
Color

Filtered Metals
250 mL plastic

D-Calcium
D-Magnesium
D-Potassium
D-Sodium

Total Metals
250 mL plastic

T-Aluminum
T-Antimony
T-Arsenic
T-Barium
T-Berylium
T-Boron
T-Cadmium
T-Chromium
T-Copper
T-Iron
T-Lead
T-Manganese
T-Mercury
T-Nickel
T-Selenium
T-Silver
T-Thallium
T-Zinc

Total Organic Carbon (TOC)

NOTE: **Prior to collection of New Drinking Water Source samples, analysis must be scheduled with the laboratory at (801) 965-2400.**

Instructions for Collection: Allow sample tap to run for a few minutes until water temperature stabilizes. Slowly fill to top of bottles, be sure not to over fill to prevent loss of preservatives.

Required Containers/Volume:

1 L Odor – amber glass bottle
1 L Surfactant – amber glass bottle
1 L Total Chemistry – unpreserved plastic bottle
500 mL Cyanide – plastic bottle
500 mL Nutrient Analysis – plastic bottle
250 mL Color – plastic bottle
*250 mL Filtered Metals –plastic bottle
*250 mL Total Metals – plastic bottle
200 mL TOC – amber glass bottle

****Metals Preserve with HNO_3 to pH <2.**

Preservative and Handling: Refrigerate or store on ice and do not allow to freeze, **recommend same day receipt at lab, must be received at lab within 24 hours of collection time**

Methods Technologies: Electrometric, Nephelometric, Gravimetric, Titration, Flow Injection Colorimetry, Ion Chromatography, ICP, and ICPMS

INORGANIC AND METAL CHEMISTRY

Name: **Annual Inorganics and Metals (18 parameters)**

Test Code: **Type 9 (Primary Inorganics and Metals Chemistry)**


Type 9 (Primary Inorganics and Metals Chemistry)

Analytes:

Cyanide	Fluoride
Turbidity (NTU)	Total Dissolved Solids (TDS)
T-Arsenic	T-Barium
T-Berylium	T-Cadmium
T-Chromium	T-Copper
T-Lead	T-Mercury
T-Nickel	T-Selenium
T-Antimony	T-Thallium
T-Sodium	Sulfate

Instructions for Collection: Allow sample tap to flow for a few minutes until water temperature stabilizes. Slowly fill containers to top, be sure not to over fill to prevent loss of preservative.

Required Containers/Volume: 1 L Total Chemistry – unpreserved plastic bottle
250 mL Total Metals – plastic bottle
500mL Cyanide – plastic bottle

Preservative and Handling: Refrigerate or store on ice and do not allow to freeze, **recommend same day receipt at lab, must be received at lab within 24 hours of collection time**

Methods Technologies: Nephelometric, Gravimetric, Flow Injection Colorimetry, Ion Chromatography, ICP, and ICPMS

Name: **Lead and Copper [Pb] and [Cu]**

Test Code: **EPA 200.8-Type 8 Metals (T-PB and T-CU)**


EPA 200.8-Type 8 Metals (Lead and Copper bottle)

Grouping: **Metals**

Application: Corrosion Control Assessment, Drinking Water

Analytes: Lead (T-Pb, Total)
Copper (T-Cu, Total)

Instructions for Collection: Allow sample tap to flow for a few minutes until water temperature stabilizes. Slowly fill to line.

Required Containers/Volume: 1 L Lead and Copper – plastic bottle

Preservative and Handling: Refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** holding times, 14 days to arrive at lab for preservation with HNO_3 to pH <2 and 6 months to analyze

Method Technology: Digestion technique followed by ICPMS detection

INORGANIC AND METAL CHEMISTRY

Name: **Arsenic [As]**

Test Code: **EPA 200.8-T-AS , EPA 200.8-D-AS**


EPA 200.8-Arsenic
(Water, Total-Metals bottle)

Grouping: **Metals**

Applications: Arsenic Rule, Drinking Water
Surface Water

Analytes: Arsenic (T-As, Total)
Arsenic (D-As, Dissolved)

Instructions for Collection: Allow sample tap to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container, be sure not to over fill to prevent loss of preservative.

Required Containers/Volume: 250 mL Total Metals – plastic bottle

Preservative and Handling: HNO_3 to pH <2, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 6 months

Method Technology: Digestion technique followed by ICPMS detection

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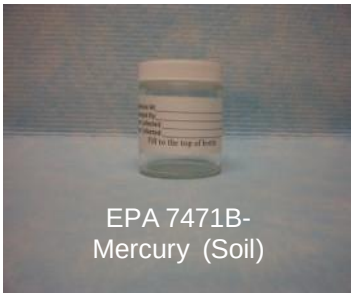
Name: **Mercury [Hg]**

Test Codes: **EPA 245.1-T-HG , EPA 245.1-D-HG , EPA 7471B (T-HG or D-HG)**


EPA 245.1-Mercury
(Water, Total-Metals bottle)


EPA 7471B-
Mercury (Soil)

Grouping: **Metals**

Applications: Drinking Water
Surface Water
Soil, solids, sludge

Analytes: Mercury (T-Hg, Total)
Mercury (D-Hg, Dissolved)

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container, be sure not to over fill to prevent loss of preservative.

Required Containers/Volume: Water – 250 mL Total Metals – plastic bottle
Soils, solids, sluge – 4 oz. glass container with Teflon-lined lid

Preservative and Handling: HNO_3 to pH <2, refrigerate or store on ice (4-6°C) and do not allow to freeze, **recommend next day receipt at lab,** total holding time 28 days, if not preserved, 24 hours.

Method Technology: Digestion technique followed by Cold Vapor AA detection

INORGANIC AND METAL CHEMISTRY

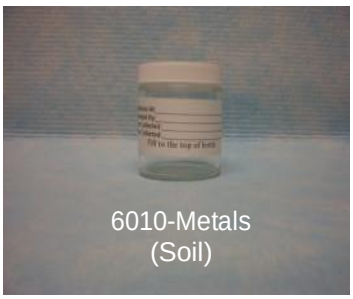
Name: **Total-Metals and Dissolved-Metals (analytical groupings)**

Test Codes: **Total-Metals Type 7 , Type 9 RCRA Types**

Filtered-Metals Type 3 , Type 4 6010-Metals (Soil)

Type 7, RCRA , or Type 9
(Total-Metals bottle)

Type 3 or Type 4
(Filtered-Metals bottle)


6010-Metals
(Soil)

Type 3
D-Aluminum
D-Arsenic
D-Barium D-Boron
D-Cadmium
D-Calcium
D-Chromium
D-Copper
D-Iron
D-Lead
D-Magnesium
D-Manganese
D-Mercury
D-Nickel
D-Potassium
D-Selenium
D-Silver
D-Sodium
D-Zinc
Hardness

Type 4
D-Calcium
D-Magnesium
D-Potassium
D-Sodium
Hardness

Type 7
T-Aluminum
T-Arsenic
T-Barium T-Boron
T-Cadmium
T-Calcium
T-Chromium
T-Copper
T-Iron
T-Lead
T-Manganese
T-Magnesium
T-Mercury
T-Nickel
T-Potassium
T-Sodium
T-Selenium
T-Silver
T-Zinc

Type 9
T-Barium
T-Cadmium
T-Chromium
T-Mercury
T-Selenium

RCRA 8
T-Arsenic T-Barium
T-Cadmium T-Chromium
T-Lead
T-Mercury T-Selenium
T-Silver

RCRA 8+4
T-Arsenic T-Barium
T-Cadmium T-Chromium
T-Lead
T-Mercury T-Selenium
T-Silver
T-Copper
T-Iron
T-Manganese
T-Zinc

RCRA 8+4+6
T-Arsenic
T-Barium
T-Cadmium
T-Chromium
T-Lead
T-Mercury
T-Selenium
T-Silver
T-Copper
T-Iron
T-Manganese
T-Zinc
T-Aluminum
T-Beryllium
T-Cobalt
T-Molybdenum
T-Nickel
T-Vanadium

NOTE: **To test for Dissolved analytes, field filtration must be done at time of sample collection and Filtered-Metals bottle used**

The constituents of the types are subject to change based upon customer request.

(Continued on Page 21)

INORGANIC AND METAL CHEMISTRY

Name: **Total-Metals and Dissolved-Metals (analytical groupings)**

Test Codes: **Total-Metals Type 7 , Type 9 RCRA Types**

Filtered-Metals Type 3 , Type 4 6010-Metals (Soil)

(Continued from Page 20)

Instructions for Collection:	Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container, be sure not to over fill to prevent loss of preservative.
Required Containers/Volume:	250 mL Total Metals – plastic bottle 250 mL Filtered Metals – plastic bottle Soils, solids, sludge– 4 oz. glass container with Teflon-lined lid
Preservative and Handling:	Liquids add HNO_3 to pH <2, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** holding times,180 days to analyze, except Mercury 28 days to analyze. 24 hours for mercury if not preserved.
Methods Technologies:	Digestion techniques (except for Drinking Water) followed by analytical technique, ie: ICP (EPA 200.7, 6010), ICPMS (EPA 200.8, 6020), and Cold Vapor AA detections (EPA 245.1)

Name: **Digestion Methods for Metals (Non-drinking water)**

EPA 3010A	TCLP & Total Metal Sample Digestion
EPA 200.8	Waste water, Groundwater and Drinking Water
EPA 3050B	Solid and Hazardous Wastes

***NOTE: Drinking water does not require digestion unless water exceeds turbidity of 1 NTU**

Analytical Methods for Metals

EPA 200.8	Drinking water and Groundwater
EPA 200.7	Drinking water, Groundwater, and Wastewater
EPA 6010	Wastes (SW 846), Water, Soil
EPA 6020	Wastes (SW 846), Water, Soil
EPA 245.1	Mercury in Water (Prep Method 245.1)
EPA 7471B	Mercury in Soil (Prep Method 7471B)

INORGANIC AND METAL CHEMISTRY

Name: **Ammonia [NH_3]**

Test Code: **EPA 350.1-NH3**


EPA 350.1-NH3
(Nutrient Analysis bottle)

Groupings: **Total-Nutrients**

Applications: Drinking Water
Surface Water

Analyte: Ammonia

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container, be sure not to over fill to prevent loss of preservative.

Required Containers/Volume: 500 mL Nutrient Analysis – plastic bottle

Preservative and Handling: H_2SO_4 to pH <2, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 28 days

Method Technology: Distillation technique followed by Flow Injection Colorimetry

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Name: **Phosphate [PO_4]**

Test Codes: **EPA 365.1-TPO4 , EPA 365.1-D-TP**


EPA 365.1-Phosphate
(Nutrient Analysis bottle)

Groupings: **Total-Nutrients**
Filtered-Nutrients

Applications: Drinking Water
Surface Water

Analytes: Phosphate (TPO4, Total)
Phosphate (D-TP, Dissolved)
Phosphate (Ortho)

NOTE: **Prior to collection of Phosphate (Ortho), analysis must be scheduled with the laboratory at (801) 965-2400.**

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container, be sure not to over fill to prevent loss of preservative.

Required Containers/Volume: 500 mL Nutrient Analysis – plastic bottle

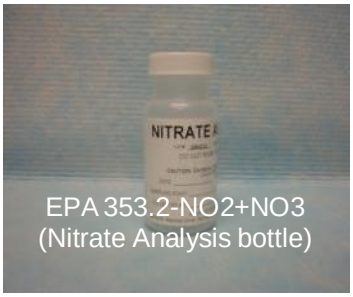
Preservative and Handling: H_2SO_4 to pH <2, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 28 days, for Phosphate (Ortho) contact laboratory

Method Technology: Digestion technique followed by Flow Injection Colorimetry

INORGANIC AND METAL CHEMISTRY

Name: **Nitrate and Nitrite [NO_3+NO_2] , Nitrite [NO_2]**

Test Codes: **EPA 353.2-NO2+NO3 , EPA 353.2-NO2**



EPA 353.2-NO2+NO3
(Nitrate Analysis bottle)

EPA 353.2-NO2
(Nitrite Analysis bottle)

Groupings: **Total-Nutrients**
Filtered-Nutrients

Applications: Drinking Water
Surface Water

Analytes: Nitrate/Nitrite (NO2+NO3)
Nitrite (NO2)

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container, be sure not to over fill to prevent loss of preservative.

Required Containers/Volume: 120 mL Nitrate – plastic bottle
500 mL Total Nutrients – plastic bottle (also applicable)
120 mL Nitrite – unpreserved plastic bottle

Preservative and Handling: Nitrate – H_2SO_4 to pH <2, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 28 days

NOTE: **Prior to collection of Nitrate and Nitrite, analysis must be scheduled at (801) 965-2400.**

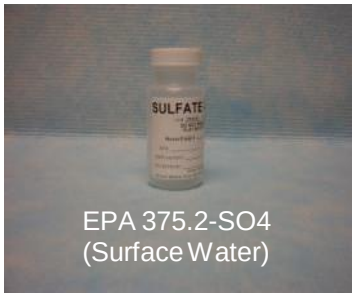
Nitrite – No preservative, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 48 hours

Method Technology: Flow Injection Colorimetry

Name: **Sulfate [SO_4]**

Test Codes: **EPA 300.0-SO4C or EPA 375.2-SO4**

EPA 300.0-SO4C
(Drinking Water)



EPA 375.2-SO4
(Surface Water)

Applications: Drinking Water
Surface Water

Analyte: Sulfate

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.

Required Containers/Volume: 120 mL Sulfate – unpreserved plastic bottle

Preservative and Handling: Refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 28 days

Method Technology: Ion Chromatography and Flow Injection Colorimetry

Name: **Total-Nutrients and Dissolved-Nutrients (analytical groupings)**

Test Codes: **Total-Nutrients Type 2 , Type 3 , Type 6**

Filtered-Nutrients Type 9


Types 2, 3, or 6
(Nutrient Analysis bottle)

Type 2
Ammonia
Phosphate (T-PO4)

Type 6
Phosphate (T-PO4)
Nitrate+Nitrite (NO2+N

Type 3
Ammonia
Phosphate (T-PO4)
Nitrate+Nitrite (NO2+NO3)

Type 9
Phosphate (D-TP)
D-Nitrate+Nitrite (NO23)
D-Total Nitrogen


Type 9
(Filtered-Nutrients bottle)

D = Dissolved

T = Total

NOTE: **To test for Dissolved analytes, field filtration must be done at time of sample collection and Filtered-Nutrients bottle used.**

Instructions for Collection:	Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container, be sure not to over fill to prevent loss of preservative.
Required Containers/Volume:	500 mL Nutrient Analysis – plastic bottle 250 mL Filtered Nutrients – plastic bottle
Preservative and Handling:	H_2SO_4 to pH <2, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 28 days
Methods Technologies:	Digestion techniques (except for Nitrate+Nitrite) followed by Flow Injection Colorimetry

INORGANIC AND METAL CHEMISTRY

Name: **Total-Nitrogen, Kjeldahl (TKN)**

Test Codes: **EPA 351.4**

EPA 351.4
(Nutrient Analysis bottle)

Applications: Drinking Water
Surface Water

Analyte: Nitrogen

Instructions for Collection:	Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container, be sure not to over fill to prevent loss of preservative.
Required Containers/Volume:	500 mL Nutrient Analysis-plastic bottle
Preservative and Handling:	H_2SO_4 to pH <2, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 28 days
Methods Technologies:	Digestion techniques followed by Flow Injection Colorimetry

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Name: **Total-Nitrogen, Dissolved (DTN)**

Test Codes: **SM 4500N**

Type 9
(Filtered-Nutrients bottle)

Applications: Drinking Water
Surface Water

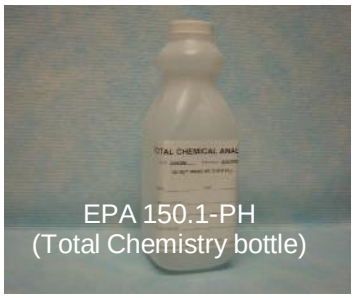
Analyte: Nitrogen

Instructions for Collection:	Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container, be sure not to over fill to prevent loss of preservative.
Required Containers/Volume:	250 mL Filtered Nutrient-plastic bottle
Preservative and Handling:	H_2SO_4 to pH <2, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 28 days
Methods Technologies:	Flow Injection Colorimetry

INORGANIC AND METAL CHEMISTRY

Name: **pH**

Test Code: **EPA 150.1-pH**


EPA 150.1-PH
(Total Chemistry bottle)

Grouping: **Total-Chemistry**

Applications: Drinking Water
Surface Water

Analyte: L-pH

L = Lab measured

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.

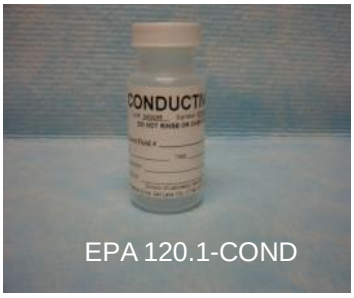
Required Containers/Volume: 1 L Total Chemistry – unpreserved plastic bottle

Preservative and Handling: Refrigerate or store on ice and do not allow to freeze, **recommend same day receipt at lab,** total holding time 24 hours

Method Technology: Electrometric Measurement

Name: **Conductivity**

Test Code: **EPA 120.1-COND**


EPA 120.1-COND

Grouping: **Total-Chemistry**

Applications: Total-Metals and Filtered-Metals
Corrosivity
Radiologic Testing

Analyte: L-Specific Conductance

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.

Required Containers/Volume: 120 mL Conductivity – unpreserved plastic bottle
1 L Total Chemistry – unpreserved plastic bottle (also applicable)

Preservative and Handling: Refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 28 days

Method Technology: Specific Conductance

Name: **Corrosivity**

Test Code: **EPA 1110 CORR**

Note: Corrosivity requires testing of Calcium, TDS, Hardness, Alkalinity, and F-pH (field measured)

Required Containers/Volume: 250 mL Total Metals – plastic bottle (see page 20)
1 L Total Chemistry – plastic bottle (see page 35)

Method Technology: Calculation: Calcium, TDS, Hardness, Alkalinity, and F-pH levels

INORGANIC AND METAL CHEMISTRY

Name: **Color**

Test Code: **EPA 110.2-L-COLR**

NOTE: **Prior to collection of Color, analysis must be scheduled at (801) 965-2400.**

Grouping: **New Drinking Water Source**

Applications: Drinking Water
Surface Water

Analyte: Color

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.

Required Containers/Volume: 250 mL Color – plastic bottle

Preservative and Handling: Refrigerate or store on ice and do not allow to freeze, **recommend same day receipt at lab,** total holding time 48 hours

Method Technology: Flow Injection Colorimetry

Name: **Odor**

Test Code: **EPA 140.1-ODOR**

NOTE: **Prior to collection of Odor, analysis must be scheduled at (801) 965-2400.**

Grouping: **New Drinking Water Source**

Applications: Drinking Water
Surface Water

Analyte: Odor, Threshold Odor Number (TON)

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.

Required Containers/Volume: 1 L Odor – amber glass bottle

Preservative and Handling: Refrigerate or store on ice and do not allow to freeze, **recommend same day receipt at lab,** total holding time 24 hours

Method Technology: Odor Threshold (Consistent Series)

Name: **Hardness (Total Hardness as $CaCO_3$)**

Test Code: **HARD**

Note: **Hardness requires testing of Calcium and Magnesium**

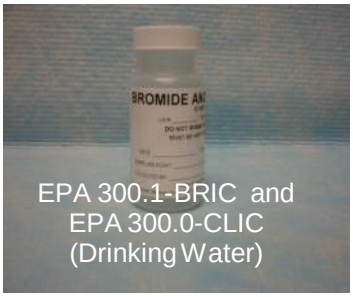
Required Containers/Volume: 250 mL Total Metals – plastic bottle (see page 20)

Method Technology: Calculation: Based on Calcium and Magnesium levels

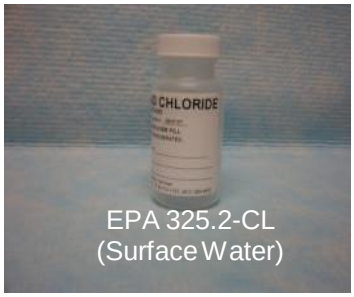
INORGANIC AND METAL CHEMISTRY

Name: **Bromide [Br] , Chloride [Cl]**

Test Codes: **EPA 300.1-BRIC , EPA 300.0-CLIC or EPA 325.2-CL**



EPA 300.1-BRIC and EPA 300.0-CLIC (Drinking Water)



EPA 325.2-CL (Surface Water)

Grouping: **Disinfectants**

Applications: Drinking Water
Surface Water

Analytes: Bromide
Chloride

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.

Required Containers/Volume: 120 mL Bromide and Chloride – unpreserved plastic bottle
120 mL Sulfate – unpreserved plastic bottle (also applicable)
1 L Total Chemistry – unpreserved plastic bottle (also applicable)

Preservative and Handling: Refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 28 days

Method Technology: Ion Chromatography and Flow Injection Colorimetry

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Name: **Bromate [BrO_3] , Bromide [Br] , Chlorate [ClO_3] , Chlorite [ClO_2]**

Test Codes: **EPA 300.1-BRO3 , EPA 300.1-BRIC , EPA 300.1-CLO3 , EPA 300.1-CLO2**

EPA 300.1-BRO3 , BRIC , -CLO3 and -CLO2

Grouping: **Inorganic Disinfection By-Products**

Applications: Drinking Water
Surface Water

Analytes: Bromate
Bromide
Chlorate
Chlorite

NOTE: **Prior to collection, analysis must be scheduled with the laboratory at (801) 965-2400**

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.

Required Containers/Volume: 100 mL Bromate, Chlorate, Chlorite – plastic bottle

Preservative and Handling: 25 mg Ethylenediamine, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** holding times, 28 days to analyze, except Chlorite and Bromate require 14 days to analyze

Method Technology: Ion Chromatography

INORGANIC AND METAL CHEMISTRY

Name: **Perchlorate [ClO_4]**

Test Code: **EPA 314.0-CLO4**

EPA 314.0-CLO4

Application: Drinking Water

Analytes: Perchlorate
Conductivity

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.

Required Containers/Volume: 120 mL Perchlorate – unpreserved plastic bottle
1L Total Chemistry – unpreserved plastic bottle (also applicable)

Preservative and Handling: Refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 28 days

Method Technology: Ion Chromatography

Name: **Cyanide [CN]**

Test Code: **EPA 335.4-CNCL**


EPA 335.4-CNCL

Applications: Drinking Water
Surface Water
Groundwater

Analyte: Cyanide

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container, be sure not to over fill to prevent loss of preservative.

Required Containers/Volume: 500 mL Cyanide – plastic bottle

Preservative and Handling: 2g NaOH to pH >12, ascorbic acid in the presence of residual chlorine, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 14 days

Method Technology: Flow Injection Colorimetry (Distillation required before analysis)

INORGANIC AND METAL CHEMISTRY

Name: **Fluoride [F]**

Test Code: **EPA 300.0-FLIC**

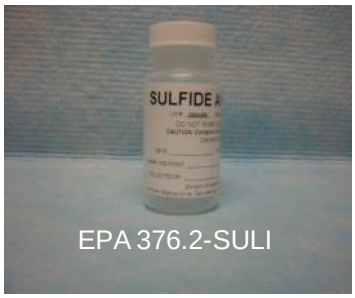
Application: Drinking Water
Surface Water

Analyte: Fluoride

Instructions for Collection:	Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.
Required Containers/Volume:	120 mL Fluoride – unpreserved plastic bottle
Preservative and Handling:	Refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 28 days
Method Technology:	Ion Chromatography

Name: **Sulfide [S]**

Test Code: **EPA 376.2-SULI**



Applications: Drinking Water
Surface Water

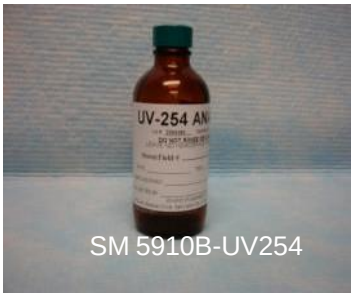
Analyte: Sulfide

Instructions for Collection:	Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container, be sure not to over fill to prevent loss of preservative.
Required Containers/Volume:	120 mL Sulfide – plastic bottle
Preservative and Handling:	3 drops Zinc Acetate and NaOH to pH >9, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 7 days
Method Technology:	Flow Injection Colorimetry

Name: **Total Organic Carbon (TOC) , UV254**

Test Codes: **SM 5310B-TOC , SM 5910B-UV254**

SM 5310B-TOC



SM 5910B-UV254

Grouping: **Total-Nutrients**
Water Treatment Technique

Applications: Drinking Water
Surface Water
Groundwater

Analytes: TOC
UV254

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container, be sure not to over fill to prevent loss of preservative.

Required Containers/Volume: 200 mL TOC – amber glass bottle
200 mL UV254 – amber glass bottle

Preservative and Handling: TOC – H_2SO_4 to pH <2, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 28 days

UV254 – No preservative, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 48 hours

Method Technology: Combustion-Infrared Detection and UV Absorbance

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Name: **Alkalinity**

Test Code: **SM 2320B-ALK**

SM 2320B-ALK

Applications: Drinking Water
Surface Water

Analytes: Alkalinity
Carbonate Solids
Carbonate
Bicarbonate (BICD)
Carbon Dioxide
Hydroxide

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.

Required Containers/Volume: 120 mL Alkalinity – unpreserved plastic bottle
1L Total Chemistry – unpreserved plastic bottle (also applicable)

Preservative and Handling: Refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 14 days

Method Technology: pH Titration and Calculation

INORGANIC AND METAL CHEMISTRY

Name: **Biological Oxygen Demand (BOD)**

Test Codes: **EPA 405.1-BOD , CBOD (Carbonate buffered BOD) , SBOD (Soluble BOD) , SCBOD (Carbonations Soluble BOD)**

EPA 405.1-BOD

Applications: Drinking Water
Surface Water

Analytes: BOD5 (5 day)
CBOD (5 day)
SBOD (5 day)
SCBOD (5 day)

Note: Please take into account that the completion of the 5 day testing duration cannot fall on a weekend or holiday.

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.

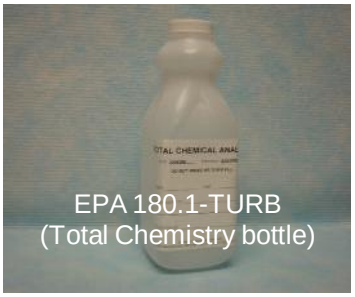
Required Containers/Volume: 2 L BOD – unpreserved plastic bottle

Preservative and Handling: Refrigerate or store on ice and do not allow to freeze, **recommend same day receipt at lab,** total holding time 48 hours

Method Technology: Dissolved Oxygen Reduction over 5 days at 20 °C

Name: **Turbidity**

Test Code: **EPA 180.1-TURB**


EPA 180.1-TURB
(Total Chemistry bottle)

Grouping: **Total-Chemistry**
Water Treatment Technique

Applications: Drinking Water
Surface Water

Analyte: Turbidity (NTU)

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.

Required Containers/Volume: 1 L Total Chemistry – unpreserved plastic bottle

Preservative and Handling: Refrigerate or store on ice and do not allow to freeze, **recommend same day receipt at lab,** total holding time 48 hours

Method Technology: Nephelometric Absorbance

INORGANIC AND METAL CHEMISTRY

Name: **Chemical Oxygen Demand (COD)**

Test Code: **EPA 410.4-COD**

EPA 410.4-COD
(Nutrient Analysis bottle)

Applications: Drinking Water
Surface Water

Analyte: COD

Will be contracted to an outside laboratory with client's approval.

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container, be sure not to over fill to prevent loss of preservative.

Required Containers/Volume: 500 mL Nutrient Analysis – plastic bottle

Preservative and Handling: H_2SO_4 to pH <2, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 28 days

Method Technology: Spectrophotometry

Name: **Chlorophyll-A**

Test Code: **SM 10200H-CH-A (modified)**

Name: **Periphyton**

Test Code: **SM 10300C (modified)**

Modified SM 10200H-Chlorophyll A
Modified SM 10300C-Periphyton

Applications: Surface Water

Analyte: Chlorophyll-A
Periphyton

Note: A separate filter is required for each individual test.

Instructions for Collection: Chlorophyll-A: Allow source to flow for a few minutes until water temperature stabilizes. Filter 25 to 500 mL through glass fiber filter then place filter in opaque container. Also, make sure to record sample volume filtered on test request form.
Periphyton: Follow sample collector's protocol or SM10200H (modified)

Required Containers/Volume: Glass Fiber filter paper– store in opaque container (eg, film canister) or follow sample collector's instructions

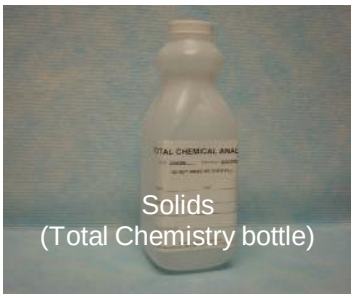
Preservative and Handling: Keep frozen, **recommend next day receipt at lab,** total holding time 3 weeks

Method Technology: Homogenization followed by Spectrophotometry

INORGANIC AND METAL CHEMISTRY

Name: **Solids**

Test Codes: **EPA 160.1-TDS , EPA 160.2-TSS , EPA 160.4-TVS , EPA 160.5-SS**


Solids
(Total Chemistry bottle)

Applications: Drinking Water
Surface Water

Analytes: Total Dissolved Solids (TDS) – filterable
Total Suspended Solids (TSS) – non-filterable
Total Volatile Solids (TVS)
Settable Solids (SS)

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.

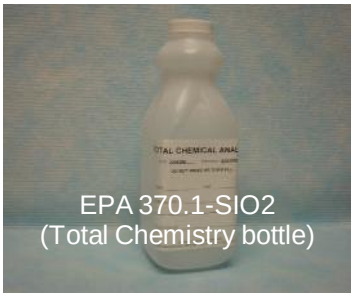
Required Containers/Volume: 1 L Total Chemistry – unpreserved plastic bottle

Preservative and Handling: Refrigerate or store on ice and do not allow to freeze, **recommend same day receipt at lab,** holding times, 7 days to analyze, except SS 48 hours to analyze

Method Technology: Gravimetric detection

Name: **Silica [SiO_2]**

Test Code: **EPA 370.1-SIO2**


EPA 370.1-SIO2
(Total Chemistry bottle)

Applications: Drinking Water
Surface Water

Analyte: Silica (SIO2)

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.

Required Containers/Volume: 1 L Total Chemistry – unpreserved plastic bottle

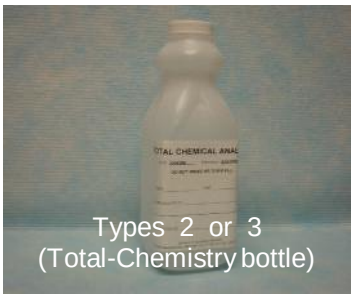
Preservative and Handling: Refrigerate or store on ice and do not allow to freeze, **recommend same day receipt at lab,** total holding time 28 days

Method Technology: Flow Injection Colorimetry

INORGANIC AND METAL CHEMISTRY

Name: **Total-Chemistry (analytical groupings)**

Test Codes: **Total-Chemistry Type 2 , Type 3 , Type 9**


Types 2 or 3
(Total-Chemistry bottle)


Type 9 (Primary Inorganics and Metals Chemistry)

Type 2
pH
Total Suspended Solids (TSS)
Bicarbonate
Carbon Dioxide
Carbonate
Chloride
Hydroxide
Sulfate
Alkalinity
Turbidity (NTU)
L-Specific Conductance
Total Dissolved Solids (TDS)

Type 3
pH
Total Suspended Solids (TSS)
D-Calcium
D-Magnesium
D-Potassium
D-Sodium
Bicarbonate
Carbon Dioxide
Carbonate
Chloride
Hydroxide
Sulfate
Alkalinity
Hardness
Turbidity (NTU)
L-Specific Conductance
Total Dissolved Solids (TDS)
Carbonate Solids

Type 9
Cyanide
Fluoride
Turbidity (NTU)
Total Dissolved Solids (TDS)
T-Arsenic
T-Barium
T-Beryllium
T-Cadmium
T-Chromium
T-Copper
T-Lead
T-Mercury
T-Nickel
T-Selenium
T-Antimony
T-Thallium
T-Sodium
Sulfate

D = Dissolved

T = Total

L = Lab measured

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.

Required Containers/Volume: 1 L Total Chemistry – unpreserved plastic bottle

Type 9 also under Annual Inorganics and Metals (see page 19)
1 L Total Chemistry – unpreserved plastic bottle
250 mL Total Metals – plastic bottle
500mL Cyanide – plastic bottle

Preservative and Handling: Refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 48 hours

Methods Technologies: Electrometric, Nephelometric, Gravimetric, Titration, Flow Injection Colorimetry, Ion Chromatography, ICP, and ICPMS

INORGANIC AND METAL CHEMISTRY

Name: **Chromium-VI [Cr^{6+}]**

Test Code: **EPA 218.7**


EPA 218.7-CR6+

Analyte: Chromium-VI (Hexavalent)

NOTE: **Prior to collection of Chromium-VI samples, analysis must be scheduled at (801) 965-2400.**

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.

Required Containers/Volume: 120 mL Chromium-VI – plastic bottle

Preservative and Handling: 1 mL of $(NH_4)_2SO_4/NH_4OH$ to 100 mL. Refrigerate or store on ice and do not allow to freeze, **recommend same day receipt at lab,** total holding time 14 days

Method Technology: Ion Chromatography

Name: **Uranium [U]**

Test Codes: **EPA 200.8-UUMS (Total) , EPA 200.8-UFMS (Dissolved)**


EPA 200.8-UUMS
(Total-Metals bottle)


EPA 200.8-UFMS
(Filtered-Metals bottle)

Applications: Drinking Water
Surface Water

Analytes: T-Thallium

T-Uranium (Unfiltered)
D-Uranium (Filtered)

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill containers to top, be sure not to over fill to prevent loss of preservative.

Required Containers/Volume: 250 mL Total Metals – plastic bottle
2 L RadioChem – plastic bottle (also applicable for Uranium)

Preservative and Handling: HNO_3 to pH <2, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 180 days

Method Technology: Digestion techniques (except for Drinking Water) followed by ICPMS detection

INORGANIC AND METAL CHEMISTRY

Name: **RCRA Toxic Characteristic Leaching Procedure (TCLP)**

Test Code: **TCLP- Metals**


1311-TCLP Metals
(Water) or (Soil)

Grouping: **Inorganic Testing (RCRA)**

NOTE: **Prior to collection of 1311-TCLP (water and soil) or 1332-TCLP (oil), analysis must be scheduled at (801) 965-2400.**

Analytes:

RCRA 8		RCRA 8+4		RCRA 8+4+6	
D004	T-Arsenic	D004	T-Arsenic	D004	T-Arsenic
D005	T-Barium	D005	T-Barium	D005	T-Barium
D006	T-Cadmium	D006	T-Cadmium	D006	T-Cadmium
D007	T-Chromium	D007	T-Chromium	D007	T-Chromium
D008	T-Lead	D008	T-Lead	D008	T-Lead
D009	T-Mercury	D009	T-Mercury	D009	T-Mercury
D010	T-Selenium	D010	T-Selenium	D010	T-Selenium
D011	T-Silver	D011	T-Silver	D011	T-Silver
			T-Copper		T-Copper
			T-Iron		T-Iron
			T-Manganese		T-Manganese
			T-Zinc		T-Zinc
					T-Aluminum
					T-Beryllium
					T-Cobalt
					T-Molybdenum
					T-Nickel
					T-Vanadium

*Other metals may be analyzed, but must be specified on test request form. For complete list of metals see indexes or contact us 801-965-2400.

Instructions for Collection: Slowly fill to top of container.

Required Containers/Volume: Water - 4 L amber glass bottle
Soil - 4 oz. amber with Teflon-lined lid glass container

Preservative and Handling: Refrigerate or store on ice 4-6°C and do not allow to freeze, **recommend next day receipt at lab,** holding times, Metals - 7 days to TCLP and 180 days to analyze except Mercury - 7 days to TCLP and 28 days to analyze

Method Technology: Method 1311 Leaching procedure and extraction technique followed by Method 6010 ICP, Method 6020 ICPMS, and Cold Vapor AA detections

ENVIRONMENTAL MICROBIOLOGY

Name: **Total Coliform , Fecal Coliform and *E. coli***

Test Codes: **SM 9223B-Colilert , SM 9222B/9221E-mENDO+EC , SM 9222B/9222D-mENDO+mFC**

Applications: Drinking Water
Surface Water

Analytes: Total Coliforms
Fecal Coliforms
E. coli (Colilert test only)

NOTE: For Surface Water: Sample delivery should be within 2 hours and temperature should not exceed 10°C.

Instructions for Collection:	Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to between the line and the top of the bottle, be sure not to over fill to prevent loss of preservative.
Required Containers/Volume:	120 mL Water Bacteriology – sterile plastic bottle
Preservative and Handling:	10 mg $Na_2S_2O_3$, refrigerate or store on ice and do not allow to freeze, **recommend same day receipt at lab,** total holding time 30 hours, except for Surface Water samples 8 hours
Method Technology:	Chromofluorogenic, Membrane Filtration, and Fermentation

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Name: **Heterotrophic Plate Count (HPC)**

Test Code: **SM 9215B-HPC**

Applications: Drinking Water
Pool/Spa Water
Reagent Water (Deionized, RO, Distilled, etc.)
Surface Water

Analyte: Heterotrophic Plate Count (total bacteria count)

Instructions for Collection:	Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container, be sure not to over fill to prevent loss of preservative.
Required Containers/Volume:	120 mL Water Bacteriology – sterile plastic bottle
Preservative and Handling:	10 mg $Na_2S_2O_3$, refrigerate or store on ice and do not allow to freeze, **recommend same day receipt at lab,** total holding time 30 hours, except for Surface Water samples 8 hours
Method Technology:	Pour Plate Agar

ENVIRONMENTAL MICROBIOLOGY

Name: ***Cryptosporidium* and *Giardia***

Test Code: **EPA 1623-Protozoa**

EPA 1623-Protozoa Filter
(Pall *Envirochek HV*)

EPA 1623-Protozoa Matrix Spike
(20 L Carboy)

Grouping: **Water Treatment Technique**

Application: Surface Water Treatment Rule (LT2)

Analytes: *Cryptosporidium* (oocysts)
Giardia (cysts)

Will be contracted to an outside laboratory with client's approval.

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. For bulk water samples, slowly fill to top of container. For field filtration, pressurized flow is necessary to pass the required 10 L (2.6 gal) volume through the capsule filter (a pump may be needed for stream flow analysis or where pressurized flow is not available). Also, make sure to record sample volume filtered on test request form.

Required Containers/Volume: 1 μm pore size Pall *Envirochek HV* – capsule filter
20 L Carboy – plastic bottle (6-1 gal plastic jugs also applicable)

Preservative and Handling: Refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** holding times, 96 hours to elution, 72 hours to staining, and 7 days to complete microscopy analysis

For regulatory analysis, samples must arrive at laboratory at less than 10 °C or arrive the same day as collected

Method Technologies: Filtration, Elution, Centrifugation, Immunomagnetic Separation, Fluorescent-conjugated Antibody Staining, and Advanced Microscopy with Differential Interference Contrast

ENVIRONMENTAL MICROBIOLOGY

Name: ***Legionella***

Test Code: **SM 9260J-Legionella**

SM 9260J-Legionella

Applications: Drinking Water (Hot Water Tanks)
Air Handling (Swamp Coolers, Evaporators, etc.)

Analyte: *Legionella*

NOTE: Prior to collection of SM 9260J-Legionella samples, analysis must be scheduled at (801) 965 -2400. Batch analysis performed on third Thursday of each month).

Instructions for Collection:	Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.
Required Containers/Volume:	2 L Legionella – unpreserved plastic bottle
Preservative and Handling:	**Same day receipt at lab,** lab testing is started within 48 hours of receiving sample
Method Technology:	Filtration, Elution, MWY Agar, and Latex-Agglutination

****The State of Utah Public Health Laboratory is a member of the CDC's elite program for Legionella testing.**

Name: ***Enterococcus***

Test Code: **Type 9-ECOCCI**

Will be contracted to an outside laboratory with client's approval.

Note: *Enterococcus* tested with Total/Fecal Coliforms for Surface Water analysis

Required Containers/Volume:	120 mL Water Bacteriology – sterile plastic bottle (see page 38)
Method Technology:	Enzyme Substrate

RADIOLOGIC CHEMISTRY

Name: **Gross-Alpha , Gross-Beta , Uranium [U]**

Test Codes: **EPA 900.0-ALPG , EPA 900.0-BETG , EPA 200.8-UUMS* , EPA 200.8-UFMS***


RadioChem & Conductivity
(Drinking and Surface Water)

Grouping: **Radiologic Testing**

Applications: Drinking Water
Surface Water

Analytes: Gross-Alpha
Gross-Beta
Uranium (UUMS-Unfiltered)
Uranium (UFMS-Filtered)
Conductivity

NOTE: If Gross-alpha level is above 5 pCi/l, Radium-226 (page 42) must also be tested.

Uranium also listed under Inorganic Testing (see page 36).

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container, be sure not to over fill to prevent loss of preservative. Do not pour from RadioChem bottle to Conductivity bottle, must fill Conductivity separately.

Required Containers/Volume:

Drinking Water
2 L RadioChem – plastic bottle
*250 mL Total Metals – plastic bottle (also applicable for Uranium)
120 mL Conductivity – plastic bottle

Surface Water
2 L RadioChem – plastic bottles
*250 mL Total Metals – plastic bottle (also applicable for Uranium)
120 mL Conductivity – plastic bottle

Preservative and Handling: HNO_3 to pH <2 (No preservation for conductivity bottle), **recommend next day receipt at lab,** total holding time 180 days

Methods Technologies: Evaporation, Co-Precipitation, and Gas-Flow Proportional Counter

Uranium detected by ICPMS

RADIOLOGIC CHEMISTRY

Name: **Radium-226 , Radium-228**

Test Codes: **EPA 903.1-226R , EPA 904.0-228R**


RadioChem
(Drinking & Surface Water)

Grouping: **Radiologic Testing**

Applications: Drinking Water
Surface Water

Analytes:
Radium-226
Radium-228

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container, be sure not to over fill to prevent loss of preservative.

Required Containers/Volume:

Drinking Water
2 L RadioChem – plastic bottle

Surface Water
2 L RadioChem – plastic bottles

Preservative and Handling: HNO_3 to pH <2, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** total holding time 180 days

Methods Technologies: Evaporation, Co-Precipitation, Emanation, and Gas-Flow Proportional Counter

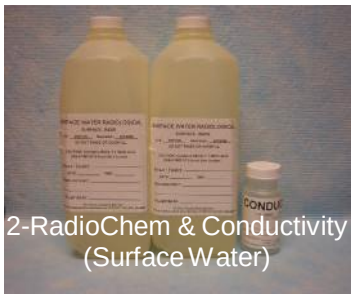
RADIOLOGIC CHEMISTRY

Name: **Radon [Rn] , Gross Gamma**

Test Codes: **EPA 913.0-RN , EPA 901.1-GAMG**


913.1-RN
(Water)


RadioChem & Conductivity
(Drinking Water)


2-RadioChem & Conductivity
(Surface Water)

Grouping: **Radiologic Testing**

Applications: Drinking Water
Surface Water

Analytes: Radon
Gamma Emission
Conductivity

NOTE: Radon and Gross Gamma testing will be contracted to an outside laboratory with client's approval.

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container, be sure not to over fill to prevent loss of preservative. For Radon, check for air bubbles by inverting and fill the remaining portion if bubbles found. There must be no headspace. Also, do not pour from RadioChem bottle to Conductivity bottle, must fill Conductivity separately.

Required Containers/Volume:

<u>Radon</u>
3-40 mL Radon – unpreserved glass vials

<u>Gross Gamma (Drinking Water)</u>
2 L RadioChem – plastic bottle
120 mL Conductivity – plastic bottle

<u>Gross Gamma (Surface Water)</u>
2-2 L RadioChem – plastic bottles
120 mL Conductivity – plastic bottle

Preservative and Handling: Radon – No preservative, use insulated packaging, **mandatory next day receipt at lab,** total holding time 72 hours

Gross Gamma – HNO_3 to pH <2, **recommend next day receipt at lab,** total holding time 180 days

Methods Technologies: LS Counter and Gamma Spectrometer

SPECIALTY ANALYSES

Name: **Geosmin and MIB**

Test Code: **EPA 525.2-ODOR**


EPA 525.2-ODOR

Applications: Drinking Water

Analytes: Geosmin
2-Methylisoborneol (MIB)

NOTE: **Prior to collection of EPA 525.2-ODOR samples, analysis must be scheduled at (801) 965-2400, due to complex nature of testing procedures (batch analysis is preferred).**

Instructions for Collection: Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container.

Required Containers/Volume: 1 L Method EPA 525.2 Odor – amber glass bottle

Preservative and Handling: **Same day receipt at lab,** no holding time

Method Technology: Liquid-solid extraction followed by GCMS detection

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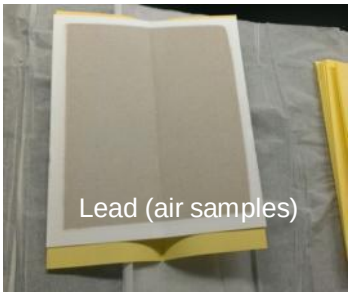
Name: **Lead (air samples)**

Test Code: **EPA 200.8-T-Pb**


Lead (air samples)

Application: Air Quality

Analyte: Lead (air sample particulate analysis)

Instructions for Collection: Air monitoring technique to capture particulates using filter paper.

Required Containers/Volume:

Preservative and Handling: Store filtered samples in plastic bag

Method Technology: Filter digestion followed by ICPMS detection

SPECIALTY ANALYSES

Unregulated Contaminant Monitoring Rule3 (UCMR3) Project (2013-2015)

According to the 1996 Safe Drinking Water Act (SDWA) a new list of 30 unregulated contaminants must be monitored every 5 years. The Chemical and Environmental Laboratory is certified by the EPA to test UCMR 1,2, and now 3 (List 1) from January 2013 through December 2015.

- **Attn: Open tap and run 5 min before taking sample.**
- **Refrigerate all samples**
- **If shipping, add appropriate coolant**
- **Additional 537 & 522 bottles for Matrix spike/Matrix spike duplicate**

- **One extra bottle for matrix spike for EPTDS only**


List 1/EPTDS-16 Bottles

Grouping: List 1
Tests (6 Total):

EPA 537	EPTDS
EPA 524.3	EPTDS
EPA 522	EPTDS
EPA 200.8	EPTDS & DSMRT
EPA 218.7	EPTDS & DSMRT
EPA 300.1	EPTDS & DSMRT

Name: **UCMR3 Perfluorinated Compounds**

Test Codes: **EPA 537—EPTDS**


Sample Bottles Trip Blanks

Instructions for Collection:

- **Fill 2 Sample Bottles**
- **Transfer sealed Trip Blank to the empty Blank Bottle**

Sample: Slowly fill bottle to top of container, be sure not to over fill to prevent loss of preservative. Agitate to dissolve preservative. Field blank: Pour all contents of Trip Blank into Blank bottle at test site. Discard Trip Blank bottle.

Containers/Volume:

4/250 mL Plastic; 2 Sample, 1 Blank, 1 Trip Blank

Name: **UCMR3 Volatiles**

Test Codes: **EPA 524.3—EPTDS**


Sample Bottles Trip Blanks

Instructions for Collection:

- **Do not open Trip Blanks**
- **Fill 4 Sample Vials with no headspace**

Slowly fill 4 Sample vials to top of container, be sure not to over fill. Remove air bubbles by inverting, and fill the remaining portion if bubbles found. There must be no headspace.

Containers/Volume:

6/40 mL clear VOAs; 4 Sample; 2 Trip Blanks

SPECIALTY ANALYSES

Name: **UCMR3 1,4 Dioxane**

Test Codes: **EPA 522—EPTDS**


2 Sample Bottles

Instructions for Collection:

- **Fill 2 Sample Bottles**
- **Agitate to dissolve**
- **Add 4 mL vial, cap and mix**

Slowly fill sample bottle to neck, be sure not to over fill to prevent loss of preservative. Agitate to dissolve preservative. Once dissolved, add contents of 4 mL vial, cap, and mix.

Containers/Volume: 2/500 mL AG & 2/4 mL vial

Name: **UCMR3 Metals**

Test Codes: **EPA 200.8—EPTDS & DSMRT**


Sample Bottle Trip Blank

Instructions for Collection:

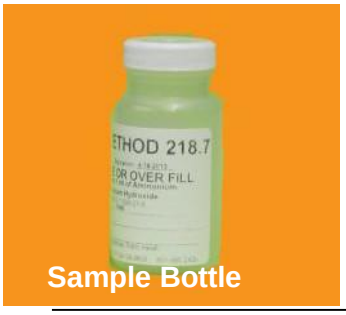
- **Uncap sealed Trip Blank**
- **Fill the Sample Bottle**
- **Recap the Trip Blank**
- **List Location on Trip Blank**

Remove cap from blank exposure and place it facedown on a clean flat surface. Wait 5 seconds. Slowly fill sample bottle to top of container, be sure not to over fill to prevent loss of preservative. Agitate to dissolve preservative. Reseal blank bottle.

Containers/Volume: 2/250 mL Plastic

Name: **UCMR3 Hexavalent Chromium**

Test Codes: **EPA 218.7—EPTDS & DSMRT**


Sample Bottle

Instructions for Collection:

- **Fill 1 Sample Bottle**

Slowly fill sample bottle to top of container, be sure not to over fill to prevent loss of preservative. Agitate to dissolve preservative. Order new bottle if preservative expiration date has past.

Containers/Volume: 100 mL Plastic

Name: **UCMR3 Chlorate**

Test Codes: **EPA 300.1—EPTDS & DSMRT**

Instructions for Collection:

- **Fill 1 Sample Bottle**

Slowly fill bottle to top of container, be sure not to over fill to prevent loss of preservative. Agitate to dissolve preservative. (If using chlorine dioxide, sparge with an inert gas for 5 min before preservation).

Containers/Volume: 100 mL Plastic

PROGRAM SPECIFIC INDEXES

Clean Water Act (CWA)

Analyte	Test Code	UPHL Unit	Page Number
Alkalinity	**SM 2320B-ALK**	Inorganic Chemistry	**30,34**
Aluminum	**EPA 200.8-AL**	Inorganic Chemistry-Metals	**20**
Ammonia	**EPA 350.1-NH3**	Inorganic Chemistry-Nutrients	**22,24**
Antimony	**EPA 200.8-SB**	Inorganic Chemistry-Metals	**20**
Arsenic	**EPA 200.8-AS**	Inorganic Chemistry-Metals	**19,20**
Barium	**EPA 200.8-BA**	Inorganic Chemistry-Metals	**20**
Beryllium	**EPA 200.8-BE**	Inorganic Chemistry-Metals	**20**
BOD	**EPA 405.1-BOD**	Inorganic Chemistry	**32**
Boron	**EPA 200.7-B**	Inorganic Chemistry-Metals	**20**
Cadmium	**EPA 200.8-CD**	Inorganic Chemistry-Metals	**20**
Calcium	**EPA 200.7-CA**	Inorganic Chemistry-Metals	**20**
CBOD	**CBOD**	Inorganic Chemistry	**32**
Chloride	**EPA 325.2-CL**	Inorganic Chemistry	**28,35**
Chlorophyll-A	**SM 10200H-CH-A**	Inorganic Chemistry	**33**
Chromium	**EPA 200.8-CR**	Inorganic Chemistry-Metals	**20**
Chromium-IV	**EPA 218.7**	Inorganic Chemistry	**36,46**
Cobalt	**EPA 200.8-CO**	Inorganic Chemistry-Metals	**20**
COD	**EPA 410.4-COD**	Inorganic Chemistry	**32**
Conductivity	**EPA 120.1-COND**	Inorganic Chemistry	**26,41**
Copper	**EPA 200.8-CU**	Inorganic Chemistry-Metals	**20**
Cyanide	**EPA -CNCL**	Inorganic Chemistry	**29,35**
E. coli	**SM 9223B-Colilert**	Environmental Microbiology	**38**
Enterococcus	**Enterolert**	Environmental Microbiology	**40**
Fecal Coliform	**SM 9222D-mFC**	Environmental Microbiology	**38**
Fluoride	**EPA 300.0-FLIC**	Inorganic Chemistry	**30,35**

PROGRAM SPECIFIC INDEXES

Clean Water Act (CWA)

Analyte	Test Code	UPHL Unit	Page Number
Gross Alpha	**EPA 900.0-ALPG**	Radiologic Chemistry	**41**
Gross Beta	**EPA 900.0-BETG**	Radiologic Chemistry	**41**
Gross Gamma	**EPA 901.1-GAMG**	Radiologic Chemistry	**43**
Hardness	**HARD**	Inorganic Chemistry	**27,35**
Heterotrophic Plate Count	**SM 9215B-HPC**	Environmental Microbiology	**38**
Iron	**EPA 200.7-FE**	Inorganic Chemistry-Metals	**20**
Lead	**EPA 200.8-PB**	Inorganic Chemistry-Metals	**20**
Magnesium	**EPA 200.7-MG**	Inorganic Chemistry-Metals	**20**
Manganese	**EPA 200.8-MN**	Inorganic Chemistry-Metals	**20**
Mercury	**EPA 245.1-HG**	Inorganic Chemistry-Metals	**19,20**
Mercury	**EPA 200.8-HG**	Inorganic Chemistry-Metals	**19,20**
Molybdenum	**EPA 200.8-MO**	Inorganic Chemistry-Metals	**20**
Nickel	**EPA 200.8-NI**	Inorganic Chemistry-Metals	**20**
Nitrate+Nitrite	**EPA 353.2-NO2+NO3**	Inorganic Chemistry-Nutrients	**23,24**
Nitrite (only)	**EPA 353.2-NO2**	Inorganic Chemistry-Nutrients	**23,24**
Oil and Grease	**EPA 1664-O/G**	Organic Chemistry	**14**
Phosphate	**EPA 365.1-TPO4**	Inorganic Chemistry-Nutrients	**22,24**
pH	**EPA 150.1-PH**	Inorganic Chemistry	**25,34**
Potassium	**EPA 200.7-K**	Inorganic Chemistry-Metals	**20**
Radium-226	**EPA 903.1-226R**	Radiologic Chemistry	**42**
Radium-228	**EPA 904.0-226R**	Radiologic Chemistry	**42**
Radon	**EPA 913.0-RN**	Radiologic Chemistry	**43**
Selenium	**EPA 200.8-SE**	Inorganic Chemistry-Metals	**20**
Silica	**EPA 370.1-SIO2**	Inorganic Chemistry	**34**
Silver	**EPA 200.8-AG**	Inorganic Chemistry-Metals	**20**

Clean Water Act (CWA)
Clean Water Act (CWA) – EPA 608-PCB/OcPest

Analyte	Test Code	UPHL Unit	Page Number
Sodium	**EPA 200.7-NA**	Inorganic Chemistry-Metals	**20**
Sulfate	**EPA 375.2-SO4**	Inorganic Chemistry	**23,35**
Sulfide	**EPA 376.2-SULI**	Inorganic Chemistry	**30**
Thallium	**EPA 200.8-TL**	Inorganic Chemistry-Metals	**35**
TOC	**SM 5310B-TOC**	Inorganic Chemistry	**30**
Total Coliform	**SM 9223B-Colilert**	Environmental Microbiology	**38**
Total Coliform	**SM 9222B-mENDO**	Environmental Microbiology	**38**
Total Dissolved Solid s (TDS)	**EPA 160.1-TDS**	Inorganic Chemistry	**34,35**
Total Suspended Sol ids (TSS)	**EPA 160.2-TSS**	Inorganic Chemistry	**34,35**
Turbidity	**EPA EPA 180.1-TURB**	Inorganic Chemistry	**32,35**
Uranium	**EPA 200.8-UUMS**	Inorganic Chemistry-Metals	**36,41**
UV254	**SM 5910B-UV254**	Inorganic Chemistry	**31**
Vanadium	**EPA 200.8-V**	Inorganic Chemistry-Metals	**20**
Zinc	**EPA 200.8-ZN**	Inorganic Chemistry-Metals	**20**
4,4'-DDD	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
4,4'-DDE	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
4,4'-DDT	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
Aldrin	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
alpha-BHC	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
beta-BHC	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
Chlordane	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
delta-BHC	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
Dieldrin	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
Endosulfan I	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**

Clean Water Act (CWA) – EPA 608-PCB/OcPest
Clean Water Act (CWA) – EPA 624-VOC

Analyte	Test Code	UPHL Unit	Page Number
Endosulfan II	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
Endosulfan sulfate	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
Endrin	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
Endrin aldehyde	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
gamma-BHC	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
Heptachlor	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
Heptachlor epoxide	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
Methoxychlor	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
PCB-1016	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
PCB-1221	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
PCB-1232	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
PCB-1242	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
PCB-1248	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
PCB-1254	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
PCB-1260	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
Toxaphene	**EPA 608-PCB/OcPest**	Organic Chemistry-PCB/OcPest	**14**
1,1-Dichloroethane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,1-Dichloroethene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,1-Dichloropropene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,1,1-Trichloroethane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,1,1,2-Tetrachloroethane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,1,2-Trichloroethane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,1,2,2-Tetrachloroethane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**

PROGRAM SPECIFIC INDEXES

Clean Water Act (CWA) – EPA 624-VOC

Analyte	Test Code	UPHL Unit	Page Number
1,2-Dibromo-3-chloropropane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,2-Dichlorobenzene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,2-Dichloroethane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,2-Dichloropropane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,2-Dichlorotoluene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,2,3-Trichlorobenzene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,2,3-Trichloropropane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,2,4-Trichlorobenzene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,2,4-Trimethylbenzene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,3-Dichlorobenzene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,3-Dichloropropane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,3,5-Trimethylbenzene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,4-Dichlorobenzene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,4-Dichlorotoluene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,4-Isopropyltoluene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
2,2-Dichloropropane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Benzene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Bromobenzene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Bromochloromethane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Bromodichloromethane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Bromoform	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Bromomethane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Carbon tetrachloride	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Chlorobenzene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Chlorodibromomethane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**

PROGRAM SPECIFIC INDEXES

Clean Water Act (CWA) – EPA 624-VOC

Analyte	Test Code	UPHL Unit	Page Number
Chloroethane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Chloroform	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Chloromethane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
cis-1,2-Dichloroethene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
cis-1,3-Dichloropropene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Dibromomethane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Dichlorodifluoromethane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Ethylbenzene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Ethylene dibromide	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Hexachlorobutadiene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Isopropylbenzene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Methylene chloride	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
MTBE	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Napthalene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
n-Butylbenzene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
n-Propylbenzene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
sec-Butylbenzene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Styrene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
tert-Butylbenzene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Tetrachloroethene (PCE)	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Toluene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
trans-1,2-Dichloroethene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
trans-1,3-Dichloropropene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Trichloroethene (TCE)	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Trichlorofluoromethane	**EPA 624-VOC**	Organic Chemistry-VOC	**9**

Clean Water Act (CWA) – EPA 624-VOC
Clean Water Act (CWA) – EPA 625-SVOC

Analyte	Test Code	UPHL Unit	Page Number
Vinyl chloride	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
Xylene	**EPA 624-VOC**	Organic Chemistry-VOC	**9**
1,2-Dichlorobenzene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
1,2,4-Trichlorobenzene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
1,3-Dichlorobenzene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
1,4-Dichlorobenzene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
2-Chloronaphthalene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
2-Chlorophenol	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
2-Methyl naphthalene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
2-Methyl phenol	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
2-Methyl-4,6-dinitrophenol	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
2-Nitroaniline	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
2-Nitrophenol	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
2,4-Dichlorophenol	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
2,4-Dimethylphenol	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
2,4-Dinitrophenol	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
2,4-Dinitrotoluene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
2,4,6-Trichlorophenol	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
2,6-Dinitrotoluene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
3-Methyl phenol	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
3-Nitroaniline	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
3,3'-Dichlorobenzidine	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
4-Bromophenyl phenyl ether	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
4-Chloroaniline	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**

PROGRAM SPECIFIC INDEXES

Clean Water Act (CWA) – EPA 625-SVOC

Analyte	Test Code	UPHL Unit	Page Number
4-Chlorophenyl phenyl ether	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
4-Chloro-3-methyl phenol	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
4-Methyl phenol	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
4-Nitroaniline	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
4-Nitrophenol	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Acenaphthene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Acenaphthylene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Aniline	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Anthracene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Benzidine	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Benzo (a) anthracene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Benzo (a) pyrene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Benzo (b) fluoranthene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Benzo (g,h,i) perylene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Benzo (k) fluoranthene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Benzylbutylphthalate	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Benzyl alcohol	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Benzoic acid	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
bis (2-chloroethyl) ether	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
bis (2-chloroethoxy) methane	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
bis (2-chloroisopropyl) ether	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
bis (2-ethylhexyl) phthalate	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Chrysene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Dibenzo (a,h) anthracene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Dibenzofuran	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**

PROGRAM SPECIFIC INDEXES

Clean Water Act (CWA) – EPA 625-SVOC

Analyte	Test Code	UPHL Unit	Page Number
Diethyl phthalate	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Dimethyl phthalate	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Di-n-butyl phthalate	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Di-n-octyl phthalate	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Fluoranthene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Fluorene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Hexachlorobenzene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Hexachlorobutadiene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Hexachlorocyclopentadiene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Hexachloroethane	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Indeno (1,2,3-cd) pyrene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Isophorone	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
n-Nitrosodimethylamine	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
n-Nitrosodiphenylamine	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
n-Nitrosodipropylamine	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Naphthalene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Nitrobenzene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Pentachlorophenol	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Phenanthrene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Phenol	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**
Pyrene	**EPA 625-SVOC**	Organic Chemistry-SVOC	**10**

Resource Conservation and Recovery Act (RCRA) – EPA 8081-PCB/OcPest

Analyte	Test Code	EPA HW No.	UPHL Unit	Page Number
4,4'-DDD	**EPA 8081-OcPest**	U060	Organic Chemistry-PCB/OcPest	**14**
4,4'-DDE	**EPA 8081-OcPest**		Organic Chemistry-PCB/OcPest	**14**
4,4'-DDT	**EPA 8081-OcPest**	U061	Organic Chemistry-PCB/OcPest	**14**
Aldrin	**EPA 8081-OcPest**	P005	Organic Chemistry-PCB/OcPest	**14**
alpha-BHC	**EPA 8081-OcPest**	U129	Organic Chemistry-PCB/OcPest	**14**
beta-BHC	**EPA 8081-OcPest**		Organic Chemistry-PCB/OcPest	**14**
Chlordane	**EPA 8081-OcPest**	D020	Organic Chemistry-PCB/OcPest	**14,16**
delta-BHC	**EPA 8081-OcPest**		Organic Chemistry-PCB/OcPest	**14**
Dieldrin	**EPA 8081-OcPest**	P037	Organic Chemistry-PCB/OcPest	**14**
Endosulfan I	**EPA 8081-OcPest**	P050	Organic Chemistry-PCB/OcPest	**14**
Endosulfan II	**EPA 8081-OcPest**	P050	Organic Chemistry-PCB/OcPest	**14**
Endosulfan sulfate	**EPA 8081-OcPest**	P050	Organic Chemistry-PCB/OcPest	**14**
Endrin	**EPA 8081-OcPest**	D012	Organic Chemistry-PCB/OcPest	**14,16**
Endrin aldehyde	**EPA 8081-OcPest**	D012	Organic Chemistry-PCB/OcPest	**14**
gamma-BHC (Lindane)	**EPA 8081-OcPest**	D013	Organic Chemistry-PCB/OcPest	**14,16**
Heptachlor	**EPA 8081-OcPest**	D031	Organic Chemistry-PCB/OcPest	**14,16**
Heptachlor epoxide	**EPA 8081-OcPest**	D031	Organic Chemistry-PCB/OcPest	**14,16**
Methoxychlor	**EPA 8081-OcPest**	D014	Organic Chemistry-PCB/OcPest	**14,16**
PCB-1016	**EPA 8082-PCB**		Organic Chemistry-PCB/OcPest	**14**
PCB-1221	**EPA 8082-PCB**		Organic Chemistry-PCB/OcPest	**14**
PCB-1232	**EPA 8082-PCB**		Organic Chemistry-PCB/OcPest	**14**
PCB-1242	**EPA 8082-PCB**		Organic Chemistry-PCB/OcPest	**14**
PCB-1248	**EPA 8082-PCB**		Organic Chemistry-PCB/OcPest	**14**
PCB-1254	**EPA 8082-PCB**		Organic Chemistry-PCB/OcPest	**14**
PCB-1260	**EPA 8082-PCB**		Organic Chemistry-PCB/OcPest	**14**

Resource Conservation and Recovery Act (RCRA) – EPA 8081-PCB/OcPest
Resource Conservation and Recovery Act (RCRA) – EPA 8151-Herbicides

Analyte	Test Code	EPA HW No.	UPHL Unit	Page Number
Toxaphene	**EPA 8081-OcPest**	D015	Organic Chemistry-PCB/OcPest	**14,16**
*Add-ons	**EPA 8081-OcPest**		Organic Chemistry-PCB/OcPest	**14**
2,4-D	**EPA 8151-Herbicides**	D016	Organic Chemistry-Herbicides	**11,16**
2,4,5-TP (Silvex)	**EPA 8151-Herbicides**	D017	Organic Chemistry-Herbicides	**11,16**
Dalapon	**EPA 8151-Herbicides**		Organic Chemistry-Herbicides	**11**
Dinoseb	**EPA 8151-Herbicides**	P020	Organic Chemistry-Herbicides	**11**
Pentachlorophenol	**EPA 8151-Herbicides**	D037	Organic Chemistry-Herbicides	**11,16**
Picloram	**EPA 8151-Herbicides**		Organic Chemistry-Herbicides	**11**
*Add-ons	**EPA 8151-Herbicides**		Organic Chemistry-Herbicides	**11**
1,1-Dichloroethane	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
1,1-Dichloroethene	**EPA 8260-VOC**	D029	Organic Chemistry-VOC	**9,16**
1,1-Dichloropropene	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
1,1,1-Trichloroethane	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
1,1,1,2-Tetrachloroethane	**EPA 8260-VOC**	U208	Organic Chemistry-VOC	**9**
1,1,2-Trichloroethane	**EPA 8260-VOC**	U227	Organic Chemistry-VOC	**9**
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
1,1,2,2-Tetrachloroethane	**EPA 8260-VOC**	U209	Organic Chemistry-VOC	**9**
1,2-Dibromo-3-chloropropane	**EPA 8260-VOC**	U066	Organic Chemistry-VOC	**9**
1,2-Dichlorobenzene	**EPA 8260-VOC**	U070	Organic Chemistry-VOC	**9**
1,2-Dichloroethane	**EPA 8260-VOC**	D028	Organic Chemistry-VOC	**9,16**
1,2-Dichloropropane	**EPA 8260-VOC**	U083	Organic Chemistry-VOC	**9**
1,2-Dichlorotoluene	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
1,2,3-Trichlorobenzene	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**

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Resource Conservation and Recovery Act (RCRA) – EPA 8260-VOC

Analyte	Test Code	EPA HW No.	UPHL Unit	Page Number
1,2,3-Trichloropropane	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
1,2,4-Trichlorobenzene	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
1,2,4-Trimethylbenzene	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
1,3-Dichlorobenzene	**EPA 8260-VOC**	U071	Organic Chemistry-VOC	**9**
1,3-Dichloropropane	**EPA 8260-VOC**	U084	Organic Chemistry-VOC	**9**
1,3,5-Trimethylbenzene	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
1,4-Dichlorobenzene	**EPA 8260-VOC**	D027	Organic Chemistry-VOC	**9,16**
1,4-Dichlorotoluene	**EPA 8260-VOC**	U072	Organic Chemistry-VOC	**9**
1,4-Isopropyltoluene	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
2,2-Dichloropropane	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
Benzene	**EPA 8260-VOC**	D018	Organic Chemistry-VOC	**9,16**
Bromobenzene	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
Bromochloromethane	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
Bromodichloromethane	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
Bromoform	**EPA 8260-VOC**	U225	Organic Chemistry-VOC	**9**
Bromomethane	**EPA 8260-VOC**	U029	Organic Chemistry-VOC	**9**
Carbon tetrachloride	**EPA 8260-VOC**	D019	Organic Chemistry-VOC	**9,16**
Chlorobenzene	**EPA 8260-VOC**	D021	Organic Chemistry-VOC	**9,16**
Chlorodibromomethane	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
Chloroethane	**EPA 8260-VOC**	U045	Organic Chemistry-VOC	**9**
Chloroform	**EPA 8260-VOC**	D022	Organic Chemistry-VOC	**9,16**
Chloromethane	**EPA 8260-VOC**	U045	Organic Chemistry-VOC	**9**
cis-1,2-Dichloroethene	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
cis-1,3-Dichloropropene	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**

Resource Conservation and Recovery Act (RCRA) – EPA 8260-VOC

Analyte	Test Code	EPA HW No.	UPHL Unit	Page Number
Dibromomethane	**EPA 8260-VOC**	U068	Organic Chemistry-VOC	**9**
Dichlorodifluoromethane	**EPA 8260-VOC**	U075	Organic Chemistry-VOC	**9**
Ethylbenzene	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
Ethylene dibromide	**EPA 8260-VOC**	U067	Organic Chemistry-VOC	**9**
Hexachlorobutadiene	**EPA 8260-VOC**	D033	Organic Chemistry-VOC	**9,16**
Isopropylbenzene	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
Methyl ethyl ketone*	**EPA 8260-VOC**	D035	Organic Chemistry-VOC	**9,16**
Methylene chloride	**EPA 8260-VOC**	U080	Organic Chemistry-VOC	**9**
MTBE	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
Napthalene	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
n-Butylbenzene	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
n-Propylbenzene	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
sec-Butylbenzene	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
Styrene	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
tert-Butylbenzene	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**
Tetrachloroethene (PCE)	**EPA 8260-VOC**	D039	Organic Chemistry-VOC	**9,16**
Toluene	**EPA 8260-VOC**	U220	Organic Chemistry-VOC	**9**
trans-1,2-Dichloroethene	**EPA 8260-VOC**	U079	Organic Chemistry-VOC	**9**
trans-1,3-Dichloropropene	**EPA 8260-VOC**	U084	Organic Chemistry-VOC	**9**
Trichloroethene (TCE)	**EPA 8260-VOC**	D040	Organic Chemistry-VOC	**9,16**
Trichlorofluoromethane	**EPA 8260-VOC**	U121	Organic Chemistry-VOC	**9**
Vinyl chloride	**EPA 8260-VOC**	D043	Organic Chemistry-VOC	**9,16**
Xylene	**EPA 8260-VOC**	U239	Organic Chemistry-VOC	**9**
*Add-ons	**EPA 8260-VOC**		Organic Chemistry-VOC	**9**

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Resource Conservation and Recovery Act (RCRA) – EPA 8270-SVOC

Analyte	Test Code	EPA HW No.	UPHL Unit	Page Number
1,2-Dichlorobenzene	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
1,2,4-Trichlorobenzene	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
1,3-Dichlorobenzene	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
1,4-Dichlorobenzene	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
2-Chloronaphthalene	**EPA 8270-SVOC**	U047	Organic Chemistry-SVOC	**10**
2-Chlorophenol	**EPA 8270-SVOC**	U048	Organic Chemistry-SVOC	**10**
2-Methyl naphthalene	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
2-Methyl phenol (o-Cresol)	**EPA 8270-SVOC**	D023	Organic Chemistry-SVOC	**10,16**
2-Methyl-4,6-dinitrophenol	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
2-Nitroaniline	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
2-Nitrophenol	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
2,4-Dichlorophenol	**EPA 8270-SVOC**	U081	Organic Chemistry-SVOC	**10**
2,4-Dimethylphenol	**EPA 8270-SVOC**	U101	Organic Chemistry-SVOC	**10**
2,4-Dinitrophenol	**EPA 8270-SVOC**	P048	Organic Chemistry-SVOC	**10**
2,4-Dinitrotoluene	**EPA 8270-SVOC**	D030	Organic Chemistry-SVOC	**10,16**
2,4,5-Trichlorophenol	**EPA 8270-SVOC**	D041	Organic Chemistry-SVOC	**10,16**
2,4,6-Trichlorophenol	**EPA 8270-SVOC**	D042	Organic Chemistry-SVOC	**10,16**
2,6-Dinitrotoluene	**EPA 8270-SVOC**	U106	Organic Chemistry-SVOC	**10**
3-Methyl phenol (m-Cresol)	**EPA 8270-SVOC**	D024	Organic Chemistry-SVOC	**10,16**
3-Nitroaniline	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
3,3'-Dichlorobenzidine	**EPA 8270-SVOC**	U073	Organic Chemistry-SVOC	**10**
4-Bromophenyl phenyl ether	**EPA 8270-SVOC**	U030	Organic Chemistry-SVOC	**10**
4-Chloroaniline	**EPA 8270-SVOC**	P024	Organic Chemistry-SVOC	**10**
4-Chlorophenyl phenyl ether	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
4-Chloro-3-methyl phenol	**EPA 8270-SVOC**	U039	Organic Chemistry-SVOC	**10**

Resource Conservation and Recovery Act (RCRA) – EPA 8270-SVOC

Analyte	Test Code	EPA HW No.	UPHL Unit	Page Number
4-Methyl phenol (p-Cresol)	**EPA 8270-SVOC**	D025	Organic Chemistry-SVOC	**10,16**
4-Nitroaniline	**EPA 8270-SVOC**	P077	Organic Chemistry-SVOC	**10**
4-Nitrophenol	**EPA 8270-SVOC**	U170	Organic Chemistry-SVOC	**10**
Acenaphthene	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
Acenaphthylene	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
Aniline	**EPA 8270-SVOC**	U012	Organic Chemistry-SVOC	**10**
Anthracene	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
Benzidine	**EPA 8270-SVOC**	U021	Organic Chemistry-SVOC	**10**
Benzo (a) anthracene	**EPA 8270-SVOC**	U018	Organic Chemistry-SVOC	**10**
Benzo (a) pyrene	**EPA 8270-SVOC**	U022	Organic Chemistry-SVOC	**10**
Benzo (b) fluoranthene	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
Benzo (g,h,i) perylene	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
Benzo (k) fluoranthene	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
Benzylbutylphthalate	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
Benzyl alcohol	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
Benzoic acid	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
bis (2-chloroethyl) ether	**EPA 8270-SVOC**	U025	Organic Chemistry-SVOC	**10**
bis (2-chloroethoxy) methane	**EPA 8270-SVOC**	U046	Organic Chemistry-SVOC	**10**
bis (2-chloroisopropyl) ether	**EPA 8270-SVOC**	U027	Organic Chemistry-SVOC	**10**
bis (2-ethylhexyl) phthalate	**EPA 8270-SVOC**	U028	Organic Chemistry-SVOC	**10**
Chrysene	**EPA 8270-SVOC**	U050	Organic Chemistry-SVOC	**10**
Dibenzo (a,h) anthracene	**EPA 8270-SVOC**	U063	Organic Chemistry-SVOC	**10**
Dibenzofuran	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
Diethyl phthalate	**EPA 8270-SVOC**	U088	Organic Chemistry-SVOC	**10**
Dimethyl phthalate	**EPA 8270-SVOC**	U102	Organic Chemistry-SVOC	**10**

Resource Conservation and Recovery Act (RCRA) – EPA 8270-SVOC

Analyte	Test Code	EPA HW No.	UPHL Unit	Page Number
Di-n-butyl phthalate	**EPA 8270-SVOC**	U069	Organic Chemistry-SVOC	**10**
Di-n-octyl phthalate	**EPA 8270-SVOC**	U107	Organic Chemistry-SVOC	**10**
Fluoranthene	**EPA 8270-SVOC**	U120	Organic Chemistry-SVOC	**10**
Fluorene	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
Hexachlorobenzene	**EPA 8270-SVOC**	D032	Organic Chemistry-SVOC	**10,16**
Hexachlorobutadiene	**EPA 8270-SVOC**	D033	Organic Chemistry-SVOC	**10,16**
Hexachlorocyclopentadiene	**EPA 8270-SVOC**	U130	Organic Chemistry-SVOC	**10**
Hexachloroethane	**EPA 8270-SVOC**	D034	Organic Chemistry-SVOC	**10,16**
Ideno (1,2,3-cd) pyrene	**EPA 8270-SVOC**	U137	Organic Chemistry-SVOC	**10**
Isophorone	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
n-Nitrosodimethylamine	**EPA 8270-SVOC**	P082	Organic Chemistry-SVOC	**10**
n-Nitrosodiphenylamine	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
n-Nitrosodipropylamine	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
Naphthalene	**EPA 8270-SVOC**	U165	Organic Chemistry-SVOC	**10**
Nitrobenzene	**EPA 8270-SVOC**	D036	Organic Chemistry-SVOC	**10,16**
Pentachlorophenol	**EPA 8270-SVOC**	D037	Organic Chemistry-SVOC	**10,16**
Phenanthrene	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
Phenol	**EPA 8270-SVOC**	U188	Organic Chemistry-SVOC	**10**
Pyrene	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**
*Pyridine	**EPA 8270-SVOC**	D038	Organic Chemistry-SVOC	**10,16**
*Add-ons	**EPA 8270-SVOC**		Organic Chemistry-SVOC	**10**

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Analyte	Test Code	UPHL Unit	Page Number
2,4-D	**EPA 515.1**	Organic Chemistry-Herbicides	**11,12**
2,4,5-TP (Silvex)	**EPA 515.1**	Organic Chemistry-Herbicides	**11,12**
3-Hyrdroxycarbofuran	**EPA 531.1**	Organic Chemistry-Carbamates	**11,12**
Aldicarb (Temik)	**EPA 531.1**	Organic Chemistry-Carbamates	**11,12**
Aldicarb sulfone	**EPA 531.1**	Organic Chemistry-Carbamates	**11,12**
Aldicarb sulfoxide	**EPA 531.1**	Organic Chemistry-Carbamates	**11,12**
Alkalinity	**SM 2320B-ALK**	Inorganic Chemistry	**30,34**
Aluminum	**EPA 200.8-AL**	Inorganic Chemistry-Metals	**20**
Ammonia	**EPA 350.1-NH3**	Inorganic Chemistry-Nutrients	**22,24**
Antimony	**EPA 200.8-SB**	Inorganic Chemistry-Metals	**20**
Arsenic	**EPA 200.8-AS**	Inorganic Chemistry-Metals	**19,20**
Barium	**EPA 200.8-BA**	Inorganic Chemistry-Metals	**20**
Beryllium	**EPA 200.8-BE**	Inorganic Chemistry-Metals	**20**
Boron	**EPA 200.7-B**	Inorganic Chemistry-Metals	**20**
Bromate	**EPA 300.0-BRO3**	Inorganic Chemistry	**28**
Bromide	**EPA 300.1-BRIC**	Inorganic Chemistry	**28**
Bromodichloromethane	**EPA 524.2-THM**	Organic Chemistry-THM	**8**
Bromoform	**EPA 524.2-THM**	Organic Chemistry-THM	**8**
Cadmium	**EPA 200.8-CD**	Inorganic Chemistry-Metals	**20**
Calcium	**EPA 200.7-CA**	Inorganic Chemistry-Metals	**20**
Carbaryl (Sevin)	**EPA 531.1**	Organic Chemistry-Carbamates	**11,12**
Carbofuran (Furadan)	**EPA 531.1**	Organic Chemistry-Carbamates	**11,12**
Chlorate	**EPA 300.0-CLO3**	Inorganic Chemistry	**28**
Chloride	**EPA 325.2-CL**	Inorganic Chemistry	**28,35**

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Analyte	Test Code	UPHL Unit	Page Number
Chloride	**EPA 300.0-CLIC**	Inorganic Chemistry	**28,35**
Chlorite	**EPA 300.0-CLO2**	Inorganic Chemistry	**28**
Chlorodibromomethane	**EPA 524.2-THM**	Organic Chemistry-THM	**8**
Chloroform	**EPA 524.2-THM**	Organic Chemistry-THM	**8**
Chromium	**EPA 200.8-CR**	Inorganic Chemistry-Metals	**20**
Chromium-IV	**EPA 218.7-CR6+**	Inorganic Chemistry	**35**
Cobalt	**EPA 200.8-CO**	Inorganic Chemistry-Metals	**20**
Color	**EPA 110.2-L-COLR**	Inorganic Chemistry	**17,27**
Conductivity	**EPA 120.1-COND**	Inorganic Chemistry	**26,41**
Copper	**EPA 200.8-CU**	Inorganic Chemistry-Metals	**20**
Corrosivity	**EPA 1110 CORR**	Inorganic Chemistry	**17,26**
Cryptosporidium	**EPA 1623**	Environmental Microbiology	**39**
Cyanide	**EPA 335.4-CNCL**	Inorganic Chemistry	**29**
Dalapon	**EPA 515.1**	Organic Chemistry-Herbicides	**11,12**
Dibromoacetic acid	**SM 6251B-HAA**	Organic Chemistry-HAA	**8**
Dichloroacetic acid	**SM 6251B-HAA**	Organic Chemistry-HAA	**8**
Dinoseb	**EPA 515.1**	Organic Chemistry-Herbicides	**11,12**
E. coli	**SM 9223B-Colilert**	Environmental Microbiology	**38**
Enterococcus	**Enterolert**	Environmental Microbiology	**40**
Fecal Coliform	**SM 9221E-EC**	Environmental Microbiology	**38**
Fluoride	**EPA 300.0-FLIC**	Inorganic Chemistry	**30,35**
Giardia	**EPA 1623**	Environmental Microbiology	**33**
Gross Alpha	**EPA 900.0-ALPG**	Radiologic Chemistry	**41**
Gross Beta	**EPA 900.0-BETG**	Radiologic Chemistry	**41**
Gross Gamma	**EPA 901.1-GAMG**	Radiologic Chemistry	**43**

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Analyte	Test Code	UPHL Unit	Page Number
Hardness	**HARD**	Inorganic Chemistry	**27,35**
Heterotrophic Plate Count	**SM 9215B-HPC**	Environmental Microbiology	**38**
Iron	**EPA 200.7-FE**	Inorganic Chemistry-Metals	**20**
Lead	**EPA 200.8-PB**	Inorganic Chemistry-Metals	**20**
Legionella	**SM 9260J**	Environmental Microbiology	**40**
Magnesium	**EPA 200.7-MG**	Inorganic Chemistry-Metals	**20**
Manganese	**EPA 200.8-MN**	Inorganic Chemistry-Metals	**20**
Mercury	**EPA 245.1-HG**	Inorganic Chemistry-Metals	**19,20**
Methomyl	**EPA 531.1**	Organic Chemistry-Carbamates	**11,12**
Molybdenum	**EPA 200.8-MO**	Inorganic Chemistry-Metals	**20**
Monobromoacetic acid	**SM 6215B-HAA**	Organic Chemistry-HAA	**8**
Monochloroacetic acid	**SM 6215B-HAA**	Organic Chemistry-HAA	**8**
Nickel	**EPA 200.8-NI**	Inorganic Chemistry-Metals	**20**
Nitrate+Nitrite	**EPA 353.2-NO2+NO3**	Inorganic Chemistry-Nutrients	**23,24**
Nitrite (only)	**EPA 353.2-NO2**	Inorganic Chemistry-Nutrients	**23,24**
Odor	**EPA 140.1-ODOR**	Inorganic Chemistry	**17,27**
Oxamyl (Vydate)	**EPA 531.1**	Organic Chemistry-Carbamates	**11,12**
Pentachlorophenol	**EPA 515.1**	Organic Chemistry-Herbicides	**11,12**
Perchlorate	**EPA 314.0-CLO4**	Inorganic Chemistry	**29**
pH	**EPA 150.1-PH**	Inorganic Chemistry	**25,34**
Phosphate	**EPA 365.1-TPO4**	Inorganic Chemistry-Nutrients	**22,24**
Picloram	**EPA 515.1**	Organic Chemistry-Herbicides	**11,12**
Potassium	**EPA 200.7-K**	Inorganic Chemistry-Metals	**20**
Radium-226	**EPA 903.1-226R**	Radiologic Chemistry	**42**
Radium-228	**EPA 904.0-226R**	Radiologic Chemistry	**42**

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Safe Drinking Water Act (SDWA) – EPA 524.2-VOC

Analyte	Test Code	UPHL Unit	Page Number
Radon	**EPA 913.0-RN**	Radiologic Chemistry	**43**
Selenium	**EPA 200.8-SE**	Inorganic Chemistry-Metals	**20**
Silica	**EPA 370.1-SIO2**	Inorganic Chemistry	**34**
Silver	**EPA 200.8-AG**	Inorganic Chemistry-Metals	**20**
Sodium	**EPA 200.7-NA**	Inorganic Chemistry-Metals	**20**
Sulfate	**EPA 300.0-SO4C**	Inorganic Chemistry	**23,35**
Sulfide	**EPA 376.2-SULI**	Inorganic Chemistry	**30**
Thallium	**EPA 200.8-TL**	Inorganic Chemistry-Metals	**35**
TOC	**SM 5310B-TOC**	Inorganic Chemistry	**30**
Total Coliform	**SM 9223B-Colilert**	Environmental Microbiology	**38**
Total Coliform	**SM 9222B-mENDO**	Environmental Microbiology	**38**
Total Dissolved Solids (TDS)	**EPA 160.1-TDS**	Inorganic Chemistry	**34,35**
Total Suspended Solids (TSS)	**EPA 160.2-TSS**	Inorganic Chemistry	**34,35**
Trichloroacetic acid	**SM 6251B-HAA**	Organic Chemistry-HAA	**8**
Turbidity	**EPA 180.1-TURB**	Inorganic Chemistry	**32,35**
Uranium	**EPA 200.8-UUMS**	Inorganic Chemistry-Metals	**36,41**
UV254	**SM 5910B-UV254**	Inorganic Chemistry	**31**
Vanadium	**EPA 200.8-V**	Inorganic Chemistry-Metals	**20**
Zinc	**EPA 200.8-ZN**	Inorganic Chemistry-Metals	**20**
1,1-Dichloroethane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,1-Dichloroethene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,1-Dichloropropene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,1,1-Trichloroethane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,1,2-Trichloroethane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**

PROGRAM SPECIFIC INDEXES

Safe Drinking Water Act (SDWA) – EPA 524.2-VOC

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1,1,1,2-Tetrachloroethane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,1,2,2-Tetrachloroethane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,2-Dibromo-3-chloropropane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,2-Dichlorobenzene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,2-Dichloroethane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,2-Dichloropropane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,2-Dichlorotoluene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,2,3-Trichlorobenzene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,2,3-Trichloropropane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,2,4-Trichlorobenzene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,2,4-Trimethylbenzene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,3-Dichlorobenzene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,3-Dichloropropane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,3,5-Trimethylbenzene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,4-Dichlorobenzene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,4-Dichlorotoluene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
1,4-Isopropyltoluene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
2,2-Dichloropropane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Benzene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Bromobenzene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Bromochloromethane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Bromodichloromethane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Bromoform	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Bromomethane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Carbon tetrachloride	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**

Safe Drinking Water Act (SDWA) – EPA 524.2-VOC

Analyte	Test Code	UPHL Unit	Page Number
Chlorobenzene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Chlorodibromomethane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Chloroethane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Chloroform	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Chloromethane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
cis-1,2-Dichloroethene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
cis-1,3-Dichloropropene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Dibromomethane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Dichlorodifluoromethane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Ethylbenzene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Ethylene dibromide	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Hexachlorobutadiene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Isopropylbenzene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Methylene chloride	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
MTBE	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Napthalene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
n-Butylbenzene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
n-Propylbenzene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
sec-Butylbenzene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Styrene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
tert-Butylbenzene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Tetrachloroethene (PCE)	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Toluene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
trans-1,2-Dichloroethene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
trans-1,3-Dichloropropene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**

Safe Drinking Water Act (SDWA) – EPA 524.2-VOC
Safe Drinking Water Act (SDWA) – EPA 525.2-SVOC

Analyte	Test Code	UPHL Unit	Page Number
Trichloroethene (TCE)	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Trichlorofluoromethane	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Vinyl chloride	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
Xylene	**EPA 524.2-VOC**	Organic Chemistry-VOC	**9,12**
2,4-Dinitrotoluene	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
2,6-Dinitrotoluene	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
4,4'-DDE	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Acetochlor	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Alachlor	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Aldrin	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
alpha-Chlordane	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Atrazine	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
bis (2-ethylhexyl) adipate	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
bis (2-ethylhexyl) phthalate	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Benzo (a) pyrene	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Bromocil	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Butachlor	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Chlorobiphenyl	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Cyanazine	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Dichlorobiphenyl	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Dieldrin	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Endrin	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
EPTC	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
gamma-Chlordane	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**

Safe Drinking Water Act (SDWA) – EPA 525.2-SVOC

Analyte	Test Code	UPHL Unit	Page Number
Heptachlor	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Heptachlor epoxide	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Heptachlorobiphenyl	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Hexachlorobenzene	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Hexachlorobiphenyl	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Hexachlorocyclopentadiene	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Lindane (gamma-BHC)	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Methoxychlor	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Metolachlor	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Metribuzin	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Molinate	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Octachlorobiphenyl	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Pentachlorobiphenyl	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Pentachlorophenol	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Prometon	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Propachlor	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Simazine	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Terbacil	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Tetrachlorobiphenyl	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
trans-Nonachlor	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Trichlorobiphenyl	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Trifluralin	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**
Toxaphene	**EPA 525.2-SVOC**	Organic Chemistry-SVOC	**10,12**

APPENDIX
INORGANIC AND METAL CHEMISTRY

Name: **Selenium Hydride**

Test Code: **SM 3114C (modified)**

SM 3114C (modified)-
Selenium Hydride

Grouping: **Metals**

Application: Drinking Water
Surface Water
Groundwater

Analyte: Selenium Hydride

Instructions for Collection:	Allow source to flow for a few minutes until water temperature stabilizes. Slowly fill to top of container, be sure not to over fill to prevent loss of preservative.
Required Containers/Volume:	250 mL Metals – plastic bottle
Preservative and Handling:	Add HNO_3 to pH <2, refrigerate or store on ice and do not allow to freeze, **recommend next day receipt at lab,** holding times,180 days to analyze
Method Technology:	Hydride AA

USE OF TEST REQUEST FORMS

When filling out test request forms the following fields of information must be completed for proper identification of samples at time of receipt:

System Name / Agency Name

System Number / Agency Code

Cost Code / Project Code

Contact Information
(phone number is required)

Person Submitting Samples
(point of contact for clarifications)

Billing Information
(if submitting samples for first time or if updates are needed)

If you are unsure of your system name and number or agency code, please contact the laboratory prior to sample submission at or for drinking water samples contact the Division of Drinking Water at 801-536-4200. If you do not have a system number and have not submitted samples to the laboratory before, a system number will be assigned at time of sample receipt.

Short lists of Agency Codes, Cost Codes / Project Codes, Sample Source Codes, and Sample Type Codes are referenced on page 72. Source and Type codes may be recorded in comments field. If you do not know which cost code or project code applies to your samples, please contact the laboratory.

USE OF CHAIN OF CUSTODY

When submitting chain of custody samples, please complete the following steps to ensure proper preservation of sample integrity:

Place Seals on Sample Container Lid or Cap or over the cooler. (must be initialed and dated at time of collection)

Identify Continuous Sample Possession
(signatures for dispatch, courier, relinquish, and so forth) located at bottom of chain-of-custody form

Verify Laboratory Receipt
(obtain copy of form when signed by DLS staff at time of receipt)

INSTRUCTIONS

AGENCY CODES

COST CODES / PROJECT CODES

UDAQ	Air Lead High Volume Study	731
UDWQ	Clean Lakes Project	351
UDWQ	Ground Water Oversight	353
UDWQ	Ground Water Permits	352
UDAQ	Utah Division of Air Quality	321
UDDW	Utah Division of Drinking Water	361
UDRC	Utah Division of Radiation Control	342
UDRC	Utah Division of Radiation Control (Mixed Waste)	343
UDSHW	Utah Division of Solid and Hazardous Waste	365/465
UDER	Utah Division of Environmental Response & Remediation	367
UDWQ	Utah Division of Water Quality (General)	350
	Public Drinking Water Systems, Billing Direct to Customer	361B
	Alliance Drinking Water Systems	366
BRHL	Bear River District Health Department	900
CUHR	Central Utah Public Health Department	900
DCHD6	Davis County Health Department	900
SLWQ	Salt Lake Valley Health Department	900
SEHP	Southeast Utah Public Health Department	900
SWHC	Southwest Utah Public Health Department	900
SCHD1	Summit County Health Department	900
TCHD	Tooele County Health Department	900
UCHD3	Utah County Health Department	900
WCHD3	Wasatch County Health Department	900
WMHD9	Weber-Morgan Health Department	900
	General Testing, Billing Direct to Customer	901

SAMPLE SOURCE CODES

1	Spring
2	Well
3	Stream
4	Lake
7	Pipe/Effluent
20	Influent
22	Primary Clarifier
24	Trickling Filter
26	Secondary Clarifier
30	Above UV
31	Below UV
32	Injection Well
33	Bat Point
14	Other

SAMPLE TYPE CODES

4	Grab Sample
8	8 hr Composite
9	24 hr Composite
15	6 hr Composite
2	Lake Surface
22	Lake Indicate Depth
23	Lake Above Thermocline
24	Lake Indicate Depth
25	Lake Mid Depth
26	Indicate Depth
27	Below Thermocline
28	Indicate Depth
29	Lake Bottom
30	Sludge
40	Sediment
50	Soil
60	Air
70	Tissue
80	Blood
90	Urine

Sampling Request Instructions

To help reduce delays in processing your samples, please fill out one test form for each sample site. One sample site may have multiple bottles, but one form cannot have multiple collection sites. Complete the collection information on all of the bottles that are submitted and place completed form in a resalable bag. The Division of Drinking Water has requested some new fields on the forms—Facility ID and Sampling Point ID. If you are not certain what to put in those fields, please contact The Division of Drinking Water. Also, when making a sample delivery, please include a telephone number that is reachable 24-28 hours after sample has been received.

Please make sure you are using our current shipping address to prevent extra courier charges and delays in your shipment as well as to ensure that your environmental samples get delivered to the proper location once they are received at the lab, use one of these two addresses listed below. If the samples need to go to someone's attention at the lab, please contact them prior to shipping so they can coordinate with sample receiving.

Address options for shipping environmental samples:

FedEx or UPS	USPS
Utah Public Health Laboratory Attn BCES Sample Receiving 4431 S 2700 W Taylorsville, UT 84129	Utah Public Health Laboratory Attn BCES Sample Receiving PO Box 144300 Salt Lake City, UT 84131-9988
Utah Public Health Laboratory 4431 S 2700 W Rm 149 Taylorsville, UT 84129	Utah Public Health Laboratory Rm 149 PO Box 144300 Salt Lake City, UT 84131-9988

If there are any questions, call 801-965-2405. Thank you.

David Dick
Environmental Chemistry Sample Receiving
Utah Public Health Laboratory
4431 S 2700 W
Taylorsville, UT 84129

Our business hours are Monday-Friday from 8 A.M. to 5 P.M.

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UTAH DEPARTMENT OF HEALTH

Utah Public Health Laboratory
Chemical and Environmental Services

4431 S 2700 W Taylorsville, UT 84129-8600
801 965 2400 Fax 801 969 3238
http://health.utah.gov/lab/chemistry

Single Collection Point Test Request Form
Please fill out this form using block letters and with a black or blue pen.
Do not attach this form to the sample.

LAB USE SECTION

LAB NUMBER

Date and Time Stamp

System/Agency Name

Customer Number

Cost/Project Code

Public Water System U T A H

Submitted By

○ State Drinking Water Compliance Samples
○ Private Investigative Samples

Sample Receipt Conditions

Documentation complete ○ Yes ○ No
Proper containers and in-date ○ Yes ○ No
Containers intact ○ Yes ○ No
Within holding time ○ Yes ○ No
Coolant ○ Yes ○ No
Temperature within-range ○ Yes ○ No ○ N/A
Acceptable pH ○ Yes ○ No ○ N/A
Acceptable mrem ○ Yes ○ No ○ N/A

○ Hand Delivered
○ Shipped Samples

First Name REPORTING/CONTACT

Last Name

Address

City

State Zip —

Email

Phone — — Fax — —

☐ New Information Update Account

First Name BILLING ☐ SAME AS REPORTING

Last Name

Address

City

State Zip —

Email

Phone — — Fax — —

LAB USE SECTION

Bottle	Qty	Temperature	pH
		.	
		.	
		.	
		.	
		.	
		.	
		.	
		.	
		.	
		.	

Facility ID

Collection Point Description / Project Name (if applicable)

Sampling Point ID

Collection Point Description (Continued)

Collector's Initials

Collection Date M M — D D — 2 0 Y Y Y Y

Collection Time 24 Hour Clock

Chlorine Residual ppm

Collector's Comments

Please place a check next to the analyte(s) to be tested. DO NOT make any other marks. If you need assistance with this form call 801 965 2405

INORGANIC

Chemistry
- ☐ Type 2
- ☐ Type 3
- ☐ Alkalinity
- ☐ Bromate*
- ☐ Bromide*
- ☐ Chlorate*
- ☐ Chloride
- ☐ Conductivity
- ☐ Corrosivity
- ☐ PH
- ☐ Silica
- ☐ Sulfate (Drinking Water)
- ☐ Sulfate (Other Water)
- ☐ TDS
- ☐ TSS
- ☐ Turbidity

Nutrients, Total
- ☐ Type 2
- ☐ Type 4
- ☐ Type 6
- ☐ Ammonia
- ☐ COD
- ☐ Nitrate and Nitrite
- ☐ Phosphate

- ☐ Nutrients, Dissolved (Type 9)
- ☐ BOD
- ☐ Color
- ☐ Cyanide
- ☐ Fluoride
- ☐ Nitrite (only)*
- ☐ Odor (TON)
- ☐ Perchlorate
- ☐ Sulfide
- ☐ TOC
- ☐ UV254
- ☐ Inorganics and Metals (Type 9)
- ☐ New Drinking Water Source (Type 7)*

METALS
- ☐ Lead and Copper (Type 8)
- ☐ Hardness

Metals, Dissovled
- ☐ Type 3
- ☐ Type 4
- ☐ Metals, Total Type 7
- ☐ RCRA 8 Metals
- ☐ TCLP Metals

Metals (check individual below)

Total	Dissolved	
☐	☐	Calcium
☐	☐	Magnesium
☐	☐	Potassium
☐	☐	Sodium
☐	☐	Arsenic
☐	☐	Barium
☐	☐	Cadmium
☐	☐	Chromium
☐	☐	Lead
☐	☐	Mercury
☐	☐	Selenium
☐	☐	Silver
☐	☐	Aluminum
☐	☐	Antimony
☐	☐	Beryllium
☐	☐	Boron
☐	☐	Cobalt
☐	☐	Copper
☐	☐	Iron
☐	☐	Manganese
☐	☐	Molybdenum
☐	☐	Nickel
☐	☐	Thallium
☐	☐	Vanadium
☐	☐	Zinc

Dissolved Samples Must Be Filtered in the Field

BTEX N

ORGANIC
- ☐ Gross Alpha and Radium 228 (Radionuclides)
- ☐ Carbamates
- ☐ HAA
- ☐ Herbicides
- ☐ Pesticides (2--515.1, 2--525.2, 1--531.1)*

PCB/OcPest*
- ☐ 608
- ☐ 8081

- ☐ Surfactants

SVOCs*
- ☐ 525.2
- ☐ 625
- ☐ 8270

- ☐ TPH
- ☐ RCRA TCLP-Organics*
- ☐ THM

VOCs*
- ☐ 524.2
- ☐ 624
- ☐ 8260

- ☐ Geosmin and MIB (525.2-Odor)
- ☐ UCMR

RADIOLOGIC
- ☐
- ☐ Gross Beta
- ☐ Gross Gamma
- ☐ Radium 226
- ☐ Uranium, Filtered
- ☐ Uranium, Unfiltered

MREM .

ENVIRONMENTAL MICROBIOLOGY
- ☐ Cryptosporidium and Giardia
  - field turbidity _____
  - time start filtering _____
  - time end filtering _____
  - total volume filtered _____
- ☐ Legionella

ADDITIONAL TESTS
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

*indicates tests that require pre-analysis scheduling at 801 965 2508

UTAH DEPARTMENT OF HEALTH

Water Bacteriological Analysis Test Request Form

Utah Public Health Laboratory

4431 S 2700 W Taylorsville, UT 84129-8600

801 965 2400 Fax 801 969 3238

http://health.utah.gov/lab/chemistry

Please fill out this form using block letters and with a black or blue pen
Do not attach this form to the sample.

LAB USE SECTION

LAB NUMBER

Received Date and Time Stamp

Analyzed Date and Time Stamp

Customer Number | Public Water System (UTAH) | Facility ID | Sampling Point ID

System/Agency Name

Collection Point Description / Project Name (if applicable)

Collection Point Description (Continued)

Please fill in the circles or check boxes next to the appropriate option
DO NOT make any other marks. If you need assistance with this form call 801 965 2405.

Reporting
- ○ State Drinking Water Compliance Samples
- ○ Private Investigative
- ○ Repeat
  - ○ Downstream Within 5 Of Original Sample
  - ○ Near First Service Connection
  - ○ Original Site
  - ○ Upstream Within 5 Of Original Sample
  - ○ TCR Repeat ONLY
  - ○ TCR Repeat AND GW Source
  - ○ Other

Repeat Continued
Original Sample Number

Orignial Sample Collection Date (M M – D D – Y Y Y Y)

Chlorine Residual ppm

- ○ Drinking Water
- ○ Pool/Spa
- ○ Raw Water
- ○ Deionized or RO
- ○ Other

GWR Trigger Source Sample(s)
Facility ID (Source #): WS

Representative Site: SSG001

Sample # ___ of ___ source(s)

- ☐ Sampled all sources in use at time of positive
- ☐ Other source(s) not in use

Name of Wholesaler

Date Wholesaler notified (M M – D D – Y Y Y Y)

Collector's First Name

Collector's Last Name

Collection Date (M M – D D – 2 0 Y Y) | Collection Time | ○ AM ○ PM

Collector's Comments

Sample Receipt Conditions ☐ Health Deptartment Investigative

Temperature ___.__ Ice ○ Yes ○ No

Contact Numbers

USL: Public Health - Environmental Microbiology	(801) 965-2400
State Division of Drinking Water	(801) 536-4200

Contact Your Local Health Department for Pool, Spa, and Hot Tub Information

Unsatisfactory Sample
- ☐ Exceeded Holding Time
- ☐ Out of Date Container
- ☐ Not State Lab Container
- ☐ Container is Broken/Leaking
- ☐ Incomplete Documentaion
- ☐ Other

Please Submit a New Sample

Matrix Testing
- ☐ Well 51
- ☐ Well 51 and HPC
- Well 97
- ☐ HPC ☐ Well 51

Additional Testing

LAB USE SECTION

REPORTING/CONTACT

First Name | Last Name

Address | City

State | Zip | Email

Phone | Fax

☐ New Information Update Account

BILLING ☐ SAME AS REPORTING

First Name | Last Name

Address | City

State | Zip | Email

Phone | Fax

Pool/ Spa/ Hot tub samples will have a colilert test and a heterotropic plate count performed on each sample. All other samples will have only a colilert test performe1 unless specified in "other". The colilert test consists of coliform and *E. coli* analysis.

INSTRUCTIONS FOR COLLECTING WATER SAMPLES

1. Do not rinse bottle or touch the lip of bottle.
2. Use only approved containers.
3. Return sample to lab within 24 hours of collection and refrigerate or hold on ice until delivery, also do not allow to freeze. Preferably hold sample at less tha 10 degrees Celsius (50 degrees Fahrenheit)
4. Collect sample by removing aerator from tap and letting water run for 2-3 minutes. Fill bottle above the the 100 ml line
5. If collecting sample from lake, pond, or type of source water, submerge the bottle, forcing it forward with an even slow motion
6. Select sampling point that will be representative of the system being tested
7. Fill out test request form completely.

STATE OF UTAH COLIFORM REGULATIONS (FOR DRINKING WATER ONLY]

For routine sample which are total coliform positive

1. System must collect the number of repeat samples indicated below for each total coliform positive result

1-'opu1at1on	# of repeat samples
25-1,000	4
>1,000	3

2. The repeat samples must taken within 24 hours of the original positive sample and the repeat test request must indicate the lab number and date of the origina positive sample. Specific locations of repeat samples are as follows:
   a. within 5 service connections upstream
   b. within 5 service connections downstream
   c. at the original sample site
3. Additional samples are required for the next month's sampling. The number of additional samples are as follows

Population	# of routine	# of additional samples
25-1,000		4
1,000-2,500	2	3
2,500-3,300	3	2
3,300-4,100	4	
>4,100	5 or more	none

For *E. coli* positive samples and repeat samples resulting in total coliform positivel

1. If either the original routine sample or any of the repeat samples are fecal coliform positive forE. *coli,* an acute violation has occurred and public notice is required within 72 hours.
2. If both the original routine sample and all repeat samples are total coliform positive, a non-acute violation has occurred and public notice is required within 14 day

Pool/ Spa/ Hot tub samples will have a colilert test and a heterotropic plate count performed on each sample. All other samples will have only a colilert test performe1 unless specified in "other". The colilert test consists of coliform and *E. coli* analysis.

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4. Collect sample by removing aerator from tap and letting water run for 2-3 minutes. Fill bottle above the the 100 ml line
5. If collecting sample from lake, pond, or type of source water, submerge the bottle, forcing it forward with an even slow motion
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   b. within 5 service connections downstream
   c. at the original sample site
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Population	# of routine	# of additional samples
25-1,000	1	4
1,000-2,500	2	3
2,500-3,300	3	2
3,300-4,100	4	
>4,100	5 or more	none

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UTAH DEPARTMENT OF HEALTH

CHAIN OF CUSTODY

Utah Public Health Laboratory
Chemical and Environmental Services
4431 S 2700 W Taylorsville, UT 84129-8600
801 965 2400 Fax 801 969 3238
http://health.utah.gov/lab/chemistry

☐ Hand Delivered
☐ Shipped Samples
☐ Cooler Returned

System/Agency Name:	System/Agency Number:	Cost/Project Code:	REQUESTED TESTS	Received Date and Time:

REPORTING/CONTACT

Attn: _____
Address: _____
City, State, Zip: _____
Phone: _____
Fax: _____
Email: _____
Submitted By: _____

BILLING (list if different)

Special Code: _____
Attn: _____
Address: _____
City, State, Zip: _____
Phone: _____
Fax: _____

Sample Receipt Conditions

Yes	No	
☐	☐	Documentation complete
☐	☐	Proper containers and in-date
☐	☐	Containers intact
☐	☐	Within holding time
☐	☐	Coolant
☐	☐	Temperature within-range
☐	☐	Acceptable pH ☐ N/A
☐	☐	Custody Seals Intact

COLLECTION POINT DESCRIPTION	Collectors Initials	Collection Date (mm/dd/yy)	Collection Time (24 hr)	COMMENTS						Receipt temperature	Receipt pH	LAB NUMBER

Dispatched By:	Date and Time:	Courier Company Name:	Invoice/Airbill #:
Relinquished By:	Date and Time:	Received by:	Date and Time:
Relinquished to USL:PH by:	Date and Time:	Received at USL:PH by:	Date and Time: